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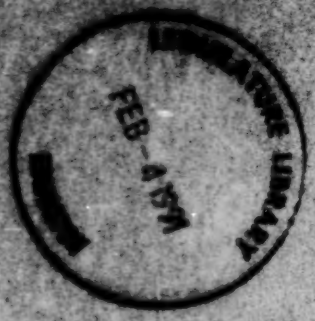

1989-90 ANNUAL REPORT

ANIMAL INDUSTRY DIVISION

ANIMAL INDUSTRY DIVISION

ANNUAL REPORT

APRIL 1989 - MARCH 1990

ALBERTA AGRICULTURE

#204, 7000-113 Street
Edmonton, Alberta
T6H 5T6

91-02316/

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Ron Gschaid	Livestock Inspection Officer I
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Norman Dalsto	Livestock Inspection Officer III (Calgary)
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REGULATORY SERVICES BRANCH Continued

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Gary Dykstra	Livestock Inspection Officer I
Al Hook	Clerk
Rick Kennedy	Livestock Inspection Officer I
Joanne Morrow	Livestock Inspection Officer I
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Everett Vold	Livestock Inspection Officer I
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Don Nielsen	Livestock Inspection Officer I

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Nancy Frost	Supervisor, Bank Reconciliation
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Gloria Crutcher	Supervisor, Registration & Records Management

ANIMAL INDUSTRY DIVISION

The Animal Industry Division is made up of seven branches: Beef Cattle and Sheep, Dairy Production, Dairy Processing, Horse Industry and Feeder Associations, Pork Industry, Poultry, and Regulatory Services.

The Division also administered the Alberta Crow Benefit Offset Program which has the objective of offsetting the distortion in feed grain prices in Alberta created by the payment of the federal Crow benefit to the railroads.

The activities of the Division, as noted in the individual branch reports, included extending technical information to producers and agri-business involved in the production and marketing of meat and dairy producing animals and poultry. The Division administered a number of acts and regulations involved in livestock and dairy production. This legislation was amended to conform with industry changes and needs.

The Division remained involved in the safety net programs for livestock producers and contributed considerable support and resource to the national tripartite red meat stabilization program administered under centralized program support.

BEEF CATTLE

AND

SHEEP

BRANCH

I. INDUSTRY OVERVIEW

A. Beef Cattle

1989 was the fourth year of continued expansion for the beef breeding herd in Alberta. At January 1, 1990, cows and heifers kept for breeding were estimated at 1.630 million. This was a 2.8% increase from the same time the previous year. Slaughter patterns for females during the year suggested that more heifers were being kept for herd replacements than in the previous year while more older cows were going to market. In the 1989 calendar year, female slaughter represented 44.6% of the total, another indication of expansion if 48% represents a stable population. There were 7.4% more calves born in Alberta in 1989 than in the previous year. This compared with an increases of 4.1% in calves born in Canada in the same period. The drought, which had been a major influence in limiting herd expansion in 1987 and 1988, moderated in 1989 in all but the east-central sections of the province.

Slaughter steer prices in 1989 remained relatively stable, with quarterly prices for Alberta direct sales for A1 grade steers ranging from a high of $85.97 per cwt live in the first quarter to a low of $79.22 in the third quarter. In the first quarter of 1990, average slaughter steer prices held firm at $85.67 per cwt live. In 1989, slaughter steer prices averaged $81.52 per cwt, compared with an average price of $80.60 in 1988. This slight improvement in prices was reflected in the average payment of $28.77 per head under the National Tripartite Red Meat Stabilization Program, compared with $62.69 in 1988. Favorable prices early in 1990 resulted in no stabilization payments for the first two months. Lower feed costs in the

third and fourth quarters of 1990 were another factor in the reduced stabilization payments for slaughter cattle.

Prices for feeder cattle weighing 600 to 700 pounds were consistently lower in each quarter of 1989, when compared with the same quarter of 1988. Over the year the price for these feeder steers in Edmonton and north averaged $97.19 per cwt live, down 7% from the prices paid for the same cattle in 1988. This price trend continued into the first quarter of 1990, with an average price of $93.00 compared with $97.37 in the same quarter of 1989. Stabilization program payments for feeder cattle in 1989 averaged $7.48 per head over the whole year, compared with payments of $33.57 per head in 1988.

It should be noted that all stabilization payments are made only after producers have paid a premium to participate. Producer premiums for the feeder cattle program were set at $4.85 per head in the third quarter of 1990, while the slaughter cattle premium was set at $8.10 per head.

The export of slaughter cattle from western Canada to the United States totalled 317,250 head in 1989, down 2.5% from 1988. During the year, a new high capacity beef slaughter plant came on stream in southern Alberta, while a major modernization was undertaken at another southern Alberta beef packing plant. Exports of live slaughter cattle representing 17% of the beef produced in western-Canada remained steady in the face of the increased slaughter capacity in Alberta.

There was a dramatic increase in exports of feeder cattle from western Canada to the U.S., with 52,303 head in 1989 - a 2.65 fold increase of over 1988. The trend continued at an accelerated pace in the first quarter of 1990, with 45,988 head going for export - more than a 6 fold increase of over the first quarter of 1989.

B. Sheep

The Alberta sheep flock grew by 6% in 1989, to reach 142,000 head by the end of the year. While the other western provinces' flocks showed similar rates of growth, total sheep numbers in Ontario grew by 11.5% to reach 165,000 animals. The Alberta breeding flock, representing sheep one year and over, stood at 93,700 on January 1, 1990 - an increase of 5.9% from the previous year. The increase of inventory of sheep in Canada in 1989 followed reduced numbers of sheep in each of the three proceeding years.

Alberta lamb prices were more stable in 1989, with neither the extreme highs nor the extreme lows of 1988, the unweighted annual average price of $73.00 was lower than the 1988 average of $78.57. In the first quarter of 1990, the average price continued to decline to $65.98, compared with $73.50 in the same period of 1988. Similar price declines occurred in both eastern Canadian and U.S. markets during the past year, although the spread between Lambco prices and Toronto prices increased from $31.96 per cwt live in 1988 to $37.02 in 1989. The lower 1989 prices were reflected in payments under the National Tripartite Stabilization Program. In 1989, stabilization payments were $11.40 per head, on a weighted average basis for the year, compared to $7.40 for 1988.

Alberta exports of sheep and lambs to the U.S. exceeded imports by 4,131 head, from a total of 16,983 exported in 1989. In spite of this, Canada continued to be a net importer of slaughter lambs from the U.S. A majority of these (55%) were imported into Ontario, with over half of these going to the light weight lamb market. Net imports of sheep and lambs from the U.S. fell from 13,241 head in 1988 to 4,902 in 1989.

C. Nutrition

Weather conditions in 1989-90 were generally favorable to livestock production and nutrition with the normal variations experienced. Later (April) calving resulted in fewer losses than earlier calving in 1989, the result of which was some producers pushing back their breeding season by 30 to 60 days for 1990. Spring temperatures were normal and precipitation was generally good. This resulted in good pasture and forage growth. The exception to this was eastern parts of Region II and III and several areas scattered through Region I.

Pasture remained good to excellent in most of the province due to timely but in some areas excessive summer precipitation. The western part of Region V and most of Region VI received 2-3 times normal precipitation in July and August. Hay harvest was delayed for many beef and dairy producers, and in some cases, hay rotted in the swath or bale. The value of silage systems in maintaining the quality of harvested forages was evident in much of Region V. Other regions experienced grain quality reduction due to sprouting in the swath. A lot of grain in Region IV was ensiled or baled because of sprouting. Much harvested grain was very light prompting

numerous inquires for feeding advice. Mycotoxins and molds were a concern to many producers. Fall weather was conducive to harvest in most regions except for the Peace. A considerable amount of hay and grain was left on the field until freeze up and quality was poor in the Peace Region.

In spite of some poor feed quality, most beef and sheep producers in the province began the winter with adequate feed supplies. Mild winter conditions for November and December were common although some short cold spells did occur. The balance of the winter was generally mild, though 7 to 10 day periods of cold stress were experienced in January and February. Forage supplies were adequate and many producers fed some grain to compensate for reduced quality.

The 1990 calving season was generally a good one with just the normal number of scour and pneumonia problems. Beef and sheep producers were optimistic that feeding and management problems could be minimized.

Cattle prices were generally good with some variation in fat cattle prices causing concern in the feedlot industry. Sheep and lamb prices were relatively poor but this did not seem to discourage producers from keeping up the level of nutritional management. Very few major feeding problems were reported.

Forage prices were strong in the south ($80-110/tonne), but much weaker in central and northern regions ($35-60/tonne). For most of the year, barley was in the $80-100/tonne range with prices increasing to

$110-115/tonne after December. Oats were priced more competitively with barley this year. Canola meal dropped to the $180-190/tonne range in January after maintaining $200/tonne plus for most of the year. Field peas prices decreased from the $160-170 range to $150-160/tonne for the last four months of the fiscal year.

The swine industry has survived tough times with some of the good managers continuing to expand. With better prices in sight, the established operators are optimistic. Interest in the use of field peas continued. The low quality feed grains available this winter stimulated a great deal of interest in feeding advice.

The feed industry in Alberta continued to undergo changes. Consolidation of some smaller units with large corporate entities took place. Ralston-Purina entered the Alberta market with the purchase and subsequent expansion of an independent mill in Region II. At the end of the year, a small family operated mill in Region VI was purchased by an expanding company from Region V. There continued to be importation of special manufactured feed products from the U.S. Most of these products continued to be inferior to what the Alberta industry offers but are highly promoted. The industry was concerned about the increase in on-farm feed mixing, especially if these units are making feed for their neighbors. The growth of on-farm mixing was due to cost advantages, the availability of good equipment and the willingness of premix supplies to sell to farmers. There was an increased amount of micro-premix making on farms, something that has food safety implications. This was generally the result of poor advice and does not make economic sense.

D. Regional Summaries

Region I

The 1989 grazing season saw adequate range and pasture growth along with ample dugout water. There was still a lot of demand for water pumping for dugouts though. This was a factor of improper design and dugout site selection rather than that of water shortage. Yearling prices and returns of pastured cattle were good especially for yearlings moved in August, 1989. Calf prices tended to be lower and returns were reduced. As a consequence, bred cow prices were only steady until December, 1989. Cow-calf pairs traded in the spring of 1990 at the same price as bred cows in the fall of 1989 reflecting less optimism in the industry for 1990.

Dugout water supplies were generally good in the spring of 1990. Improved spring moisture conditions compared with the past few years has lead to some optimism for good range and, as a result, replacement prices moved up.

Much of the extension effort to the cow calf industry was to emphasize increased production efficiency. Calf losses from scours and pneumonia as a result of early 1989 spring storms has led to some discussion on the ideal calving date. Most of these discussions have concluded that earlier calving still may be marginally more economical when calves are sold in October but later calving is more economical if calves can be retained and backgrounded to a similar age.

In considering efficiency, there was a lot more recognition from producers, pasture associations and Alberta Forestry, Lands and Wildlife on the effect of cow size, milk production, and calf size and age on pasture requirements. Even producers with bigger cows began to realize that pasture rental rates will have to reflect these differences.

The feeding industry experienced marginal returns in 1989-90. Excluding tripartite, the industry was in a negative position. Regardless, there remains a lot of optimism in the industry. In 1989-90, feeding capacity increased by approximately 75,000 head with most of the increase occurring in established feedlots.

In addition, a number of feedlots have made considerable capital expenditure in feed milling facilities. Most of these new facilities incorporated grain tempering. This has taken away some business from established feedmills. Since these new facilities have the capacity to service neighboring smaller feeders, and since the superiority of steam rolled grains nas not been justified in recent research findings, some larger feeders were selling processed grain to their smaller neighbors. This has placed some pressure on the feedmills to become more competitive and service-oriented.

Corn silage production has decreased as a result of increased yields from the new short stemmed barleys and the recognized lower input costs for both barley and alfalfa silage. Plant breeders will have to increase the potential yield of corn considerably to reverse this trend.

Higher interest rates have not lowered the numbers of cattle fed but replacement prices are showing some reflection. Replacement costs were not reduced enough to stave off lower returns without an increase in fat cattle prices. Replacement prices would have gone lower if it hadn't been for increased demand for yearling cattle from the U.S. The increased numbers moving south have led to some concerns about the availability of feedlot replacements the summer and fall of 1990.

The potential for consolidation in the packing industry has some producers concerned. To many, it would appear that we could end up with only two plants in Alberta. Certainly some of the optimism that exists in the feeding industry was a result of higher cattle prices as a result of the battle for market share among the packers. But this is tempered by the thought of what might occur when the battle is over and only two plants remain.

Exporting to the U.S., the cattle market has developed as a viable alternative for southern feeders. In the past, the U.S. market was mostly viewed as a place to dump unwanted, over-fat cattle. The increased demand for leaner beef in the U.S. and the superiority of our feeding system to supply this quality has established the U.S. as a large potential market. With increased numbers going south, the basis difference between Canada and U.S. should be reduced, leading to a greater potential use of the U.S. futures to reduce risk.

Region II

There was an increasing trend to market calves directly to feedlots. In addition, forward contracting by feedlots, both for delivery and management (feeding, vaccinations, etc.) will increase as it decreases disease and evens out supply cycles.

Producers were generally becoming more aware of the importance of carcass quality. This has been true of feedlot producers, but more cow calf producers are now concentrating on it. The one reason is that Cargill is paying for quality factors and this will put pressure on feedlot and back to the cow/calf. The institution of marbling is being considered as a quality factor in the grading system. As a result of these factors, the trend to specialized carcasses will grow.

Producers are becoming more aware that consumer needs and wants are critical to their businesses. The trend to more communication between these two groups is growing and will continue.

The issue of water and forage shortages has been around for several years, however, the pressure was greater this year. The Special Areas in particular has closed some community pastures for 1990 and requested that stocking rates be cut by 20% on all grazing leases. This is an issue that seriously needs to be addressed.

Region III

There was a lot of talk and speculation over the past year as to the intentions of the packing industry. As a result of the changes that are occurring in the packing industry, the feedlot industry as we know it could be in for a major realignment. Cargill's plant had an impact on central Alberta producers but not as great as expected. The majority of the Region's kill still go to Canada Packers in Red Deer, Lakeside in Brooks, XL in Calgary and Gainers in Edmonton. With the proposed buy out of Canada Packers in Red Deer, this could change somewhat. A number of cattle were marketed into the U.S. during the year, but the amounts varied throughout the year depending on a number of factors such as the Canadian dollar.

Production over the past year has been steady although many feedlots were not as full as they would have liked. Gains were good due to an easy winter and abundance of good quality roughage and grains. Low bushel weight barley was prevalent but good quality barley was also competitively priced. The largest concern of producers was the high cost of feeders which resulted in little opportunity for profit without tripartite stabilization.

Unlike in the previous year, cow-calf producers enjoyed a relatively uneventful winter and spring with no real adverse effects from the weather. There was an abundance of good quality roughage in areas west of Stettler but a shortage east. Timely rains, during the summer of 1989, assisted cattlemen in all areas of central Alberta and cattle came into the fall and winter in good condition. Spring moisture levels in 1990 in eastern regions have been poor although dugouts were full.

Calf prices in the fall of 1989 were slightly off the previous years record prices but still adequate for most producers. It is anticipated prices will decline in coming years and for this reason, more producers are signing up for tripartite stabilization.

There is also a greater awareness and consciousness among producers on animal welfare and meat safety issues. In field days and seminars, these topics continued to come up and producers are now concerned to the point of being willing to change some present practices or at the least be more diligent in some practices such as branding, castration, and dehorning.

Region IV

Producers continued to have problems keeping cows in good condition after calving, due to not realizing the significance of increased nutrient requirements at that time.

The demand for bulls at the beginning of the year was high, with good participation at the Lakeland College Bull Test Sale. Towards the end of the year, prices for bulls declined. At the Lloydminster Bull Sale, prices were down for most breeds compared to the spring of 1989.

Calving problems were a big factor in the spring of 1989, and there was a lot of interest in the factors affecting birth weights of calves in calving difficulties.

There was a lot of bull semen evaluated because of frost bite to bulls in the spring of 1989. Because of this, the Board of Directors of the Rannach Community Pasture decided that in the following year, the patrons would have to bring a breeding soundness evaluation from the veterinarian for their bulls on the entry day.

Bovine virus diarrhea (B.V.D.) caused problems in the region. One producer south of Vermilion lost 50 calves. Although management and nutrition may have contributed to the problem, a new hotter strain of B.V.D. virus was suspected. Downer cows were still a problem on grain and straw rations this past year.

Self treatment stations for blackfly control continued to catch on in the Lac La Biche area. They have created interest in the Bonnyville area as well.

Heat stress in late July and wet weather in August caused problems with low bushel weights and sprouting in barley. These conditions also resulted in fairly mature hay being harvested with lower protein content. A lot of sprouted barley was harvested as silage or greenfeed.

Feed supplies were adequate, however, feed tests were strongly recommended due to poor feed quality. A lot of greenfeed samples only contained about 7% protein. Sprouting and frost damage problems were common in barley, and most samples of these kinds of barley had low bushel weights.

Grains, although light in bushel weights, appeared higher in nutrient content. Protein is up in barley and oats and rations are requiring less protein supplement than last year.

Bred heifers sold between $800 - $950 and cows traded between $700 - $900 in the fall of 1989. These prices were down $100 from the previous year.

Consolidation of packing plants intensified demand for steady supplies of slaughter cattle. To secure supplies, packing plants are contracting with the big feedlots down in southern Alberta. Feedlots in turn are wanting to secure a steady supply of feeder cattle, especially in February for the 750 - 800 pound range. These feedlots are wanting to contract with the producers to background calves in this area. It looks like this area may become more of a backgrounding area. With the expected loss of the cattle kill at Gainers and the irrigation projects and grazing leases down south, producers feel that they have lost their comparative advantage in raising and feeding cattle.

The Regional Beef Planning Committee identified three priority areas for future program planning. These include:

- improving the calving profile
- pasture management
- use of production economics and marketing information

It was felt that these areas offered the greatest potential for improving profitability in the cow/calf sector.

District agriculturists participating in the Beef Survey met with the specialist to decide how to follow-up the Beef Survey. It was decided that a Farming for the Future Program on the costs and benefits of shortening the calving season or improving the calving profile would be a good follow-up. The St. Paul office decided to conduct the Beef Survey across their county. The Lamont district also conducted the Survey county wide. Beef clubs were active in St. Paul and Vermilion with a series of extension meetings on various topics. These were well attended by enthusiastic group of producers in each location. Beef clubs in Vermilion and Tofield continued work on their Pelvic Measurement Trials. The Provost district conducted a newsletter on the Beef Herd Management Program dealing with the various aspects of reducing the length of the calving season. There was good feed-back from these newsletters.

Region V

Region V is definitely cattle country. In addition to approximately 17% of the provincial breeding herd population, there were increased cow/calf pairs from southern and eastern Alberta being trucked into the area for summer grazing. This was especially significant in the Drayton Valley area but also prevalent throughout the western half of the region. The Pembina Grazing Reserve west of Drayton Valley had 45% of the breeding herd from the local area, 35% from the High River area and 20% from the Stettler area. Drought conditions in the previous two years forced southern cattlemen to either reduce or to find summer grazing. This region being relatively close, having excess pasture and relatively cheap pasture rates made transporting cattle a viable alternative. This trend will likely

continue over the next several years since it takes time for pasture to recover from drought.

Rainfall was abundant throughout most of the region, but especially in the western half where over 36 inches was recorded in some places. The rainfall delayed the first cut hay crop into late August and even September. In early September, there were concerns of a feed shortage in Evansburg-Edson area because the excess rainfall had not allowed harvest of a winter feed supply. It took until late September to harvest hay in that area. Hay quality on the first cut was generally poor but still suitable for maintenance beef cow rations. Those producers harvesting a second hay cut found the quality to be better than average. The late first cut shortened the time between cuts resulting in a more vegetative second cut.

The October release to District Agriculturists of Cowbytes Version 1.3 was especially timely given the poor quality feed throughout the western portion of Region V. It coincided nicely with feed analysis sampling programs and was used extensively for balancing beef cattle rations.

Cattle producers are investing money back into their operations. There were increased requests for information on corral designs, calving, barns, farm scales and penning arrangements, all of which indicate a future commitment to beef cattle production. Veterinarians report better handling facilities throughout the area and more interest in management related practices such as vaccination programs, pregnancy checking and bull breeding soundness evaluations.

The cow/calf and feedlot industries appear healthy in the region. Farm returns have generally been profitable and producers are generally interested in improving productivity.

Producers are concerned about the future direction of the animal welfare movement. The topic of animal welfare highlighted several extension meetings.

Region VI

Cattlemen seem to be serious about herd expansion, as expressed by interest in building permanent facilities such as handling corrals and high tensile fences. Many new herds are evident. It is not uncommon to find beginners calving out 25-40 heifers.

1989 was a difficult summer to harvest hay because of record breaking rainfall, and ice formations in mid-winter caused many injuries to cattle and cattlemen alike.

Although cattlemen did not expect assistance for hay loss, the disaster aid program announced in March has done a lot to encourage some, who may otherwise have gone back to grain production to continue in livestock. The beginning of an "information gathering" survey in the Peace for development of an individual coverage hay insurance program is a welcome innovation, and important to the development of a stable cattle and sheep industry.

Record attendance was experienced at the first Grande Prairie "Beef Cattle Day" which focused on ease of calving. More one-day "Beef Cattle Days" were held at Fairview, High Prairie and Worsley. This form of extension, designed to reinforce the Cattle Improvement Program (CIP) offered by our staff, will be expanded throughout the Peace.

Marketing as usual was a constant concern, and the addition of another fall cattle sale at the Whitemud Provincial Grazing Reserve (Dixonville) brought to three the number of producer operated pasture sales. Expansion plans by the Peace Country Cattle Sales Association at High Prairie includes construction of new facilities with 2000 head capacity. Electronic marketing is increasing, and for those able to gather the minimum 40,000 lbs of calves or yearlings, it offers an excellent marketing alternative from isolated locations.

Sheep producers have had to contend not only with lower prices and a lot of spoiled hay, but also the "realignment" of Peace River Lamb Association (PRLA). This consisted of a resurgent interest to bring more control of PRLA to the Alberta Peace from the British Columbia Peace. Since PRLA is primarily a lamb marketing agency and traditionally organized shipments to Lambco, the uncertainty of Lambco's future has caused serious concern for area producers. Despite these difficulties, interest from new operators has been increased this year.

II. PROGRAMS

In addition to the normal work with programs, all of the branch staff and the regional livestock specialists were active in the development of a branch operational plan to guide the branch over the next several years. The initial draft of the plan was completed during the year with finalizing and updating to be done in 1990. A branch research plan was also developed. Following are the details regarding individual programs:

1. Federal-Provincial Beef Record of Performance (R.O.P.) Program

The Beef R.O.P. Program continued to be delivered to Alberta beef producers under an agreement between our department and Agriculture Canada, in which Ag. Canada provides the hardware and software to process R.O.P. data, while Alberta Agriculture provides the data entry and extension personnel. Data processing for the R.O.P. program has gone fairly smoothly this year. Relatively minor hardware and software problems have arisen from time to time, but in most cases, individual producers did not suffer major delays in receiving their data. We are still facing a problem of inadequate storage capacity of the present hardware. To date, Ottawa has not given any indication of how this should be addressed. Producers have generally expressed satisfaction with the information and service provided to them.

A total of 7015 weaning records from 114 herds were processed in 1989-90. This total is up slightly from the 1988-89 totals. The Canadian Angus Association and Canadian Limousin Association versions of the Federal-Provincial R.O.P. have taken away a few more herds from being

processed here. It is perhaps notable that new enrollees to the R.O.P. program have doubled to 20 new herds this year as compared to 1988-89.

Estimated Progeny Difference (EPD) calculations were provided with fall 1989 weaning reports for all herds with qualifying animals. Despite the fact that many producers have not yet established a great degree of confidence in this new evaluation, there was considerable interest in the reports. There will no doubt be a large field for extension efforts in helping producers to understand them sufficiently to have confidence in using them as a selection tool. Many of the producers asking for R.O.P. herd enrollment forms indicate that it is the EPD evaluation that has prompted their interest.

The National Advisory Board for Beef Cattle Improvement, which is the governing body for beef performance testing programs in Canada, met in Regina in June. This meeting brings together representatives of both Federal and Provincial governments, breed associations as well as producers concerned with beef cattle performance testing. Since that meeting, a discussion paper called "Beef Cattle Genetic Improvement in Canada - A National Initiative for the 1990's" was prepared by Agriculture Canada. This is designed to launch a new, fully coordinated effort in the field of performance testing.

2. Records of Performance (R.O.P.) Weight Supervision Program

This program provides for the supervision of scales and weights taken for beef home test programs in the province. This is accomplished through both hired technicians and through reimbursement of Counties/Municipalities whose employees have provided supervision.

In 1989-90, 16 districts were involved in the program. Over 30,000 head of cattle in 476 herds were weighed at a cost of about $33,775. While the number of herds is down slightly from the previous year, roughly 2,000 more cattle were weighed and program expenses were up nearly $3,000.

Performance records for cattle weighed under the weight supervision program were calculated by one of the following: the Federal-Provincial Beef R.O.P. Program, one of several industry programs (breed associations such as Angus, Charolais, Hereford, Limousin, or Simmental), at home on one of the micro-computer programs available, or by hand. In some cases, raw weights alone are used in evaluation of the cattle.

3. Bull Test Stations

Central bull test stations continued to be a popular medium for testing and marketing bulls. The tremendous expansion that we had seen in the past several years was gone this year, but there were still 4,935 bulls tested by 47 testing agencies in the province, which is essentially the same level as in 1988-89. The tests are concentrated in the more heavily populated areas of the province (along Highway 2) from Raymond in the south to Fairview in the north.

Provincial Agriculture staff were involved in many of these tests by way of weight supervision, consultation in testing procedures, or in the calculation and distribution of the test results.

Sales following some of the various bull tests seemed to be down somewhat from a year ago. Nevertheless, it seems that enthusiasm for the 1990-91 test year is still strong. Some station managers/test committees have indicated that they seem to have noticed a shift in buyer emphasis from pure "growth" to a more "all round" performance including calving ease (birth weights) and indications of fertility. This may mean that testing agencies will have to rethink their methods of selecting bulls to offer for sale.

4. The Alberta Beef Cattle Performance Awards

These awards are presented annually to Alberta producers who demonstrate the use of performance testing principles in their breeding programs. Winners are selected from nominations submitted by beef producers or organizations.

The 1989 recipients of the Alberta Beef Cattle Performance Awards were presented with their awards in late 1989 or early 1990. Ron Noble of Lloydminster was selected by the panel of judges as the "commercial" award winner. This award was presented at the Lakeland College Bull Test Station Sale. Doug Fraser of Hussar was named the winner of the "purebred" award. Mr. Fraser received his award at the annual meeting of the Alberta Hereford

Association held this year in Red Deer. Both Alberta winners were subsequently nominated for the Canadian Beef Performance Awards. In February 1990, Doug Fraser was named the winner of the national award.

5. Reproductive Physiology

The greatest amount of time spent in this area has been in applied research. Reproduction staff are involved with 17 research projects (listed on pages 49 and 50). The staff also generated four news releases and four papers for scientific journals. In addition to the major research effort, considerable time was spent with individual farmers and groups on bull fertility evaluation and on how to shorten the calving season. These two areas have a major impact on the profitability of cattle herds and are two areas of cattle management frequently identified as limiting profitability. An increasing interest by farmers in reducing calving difficulty has also prompted a number of meetings and telephone calls about pelvic size and how to identify easy calving bulls.

6. Semen Evaluation Lab

The major function of this laboratory is to aid the Alberta bull studs to produce and/or distribute frozen semen that satisfies the guidelines formulated by Alberta Agriculture for minimum qualify of frozen semen marketed in Alberta. The lab examined 824 semen samples during 1989-90 (Table 1).

Table 1 Number of Semen Samples Evaluated by Species

Species	1989-90	1988-89	1987-88
Bison	-	1	1
Cattle	766	767	662
Elk	50	-	-
Goat	-	22	-
Horse	1	1	-
Sheep	5	-	45
Swine	2	16	8
Turkey	-	-	11
Totals	824	806	727

Of the 824 semen samples evaluated during the fiscal year, 590 were received from the three Alberta bull studs. Five hundred and fifty-four (554) of these samples were processed by the Alberta studs. The others were produced elsewhere but were marketed by the Alberta studs. Of the 590 samples received from the bulls studs, 170 were sent because the stud was uncertain of the quality of the semen, 45% of these questionable samples met the Alberta Agriculture guidelines. Of the balance of the 590 samples sent for routine evaluation (420), 59% met all of the Alberta guidelines.

Table 2 lists the number of samples submitted by Alberta bull studs for the past three years and the number found to meet the Alberta standard.

Table 2 Number of Semen Samples Evaluated For Alberta Bull Studs and Number Found Which Met Alberta Standard

	1989-90	1988-89	1987-88
Number of samples evaluated	590	593	570
Number of acceptable samples	294	317	329
Percent acceptable	50%	53%	58%

The Semen Lab was evaluated by Dr. Larry Johnson, a noted semen specialist from the USDA. He reported that our staff was doing a good job of evaluating semen and were following good procedures.

7. Artificial Insemination

The rapid decrease in licensed businesses and technicians noted last year continued this year with six businesses deciding to cease business and 30 technicians failed to apply for renewal. Inadequate calls to justify the licence fees was the most common reason given. An increasing number of the remaining technicians are affiliating with the larger inseminating businesses.

Table 3 Number of Artificial Insemination Licenses Issued

	1989	1988
Semen Producing businesses - Beef	3	3
- Swine	1	1
Inseminating businesses	27	33
Semen producing technicians	15	16
Inseminating technicians	53	83

Little extension work was done by staff directly with artificial insemination technicians. An A.I. forum was held in November. The feature focus was on Dr. Phil Senger who conducted a horn breeding seminar for the participants. This procedure promises to increase the success rate for casual inseminators.

8. Game Farm Extension

Interest in game farming and llama/alpaca farming remained high during the past season. Many telephone calls were handled by the section. Most calls were from new game farmers or interested people seeking management or market information. Even though there are still a few groups publicly opposing game farming, no calls were received by section staff from people with such views.

Elk, bison and llama are the three species generating the most interest. The number of herds continues to expand. The market for breeding stock in all three species is strong and prices have climbed during the year. Top quality elk velvet antlers increased to an average of $85 per pound this past season. Demand remains strong and buyers are now attempting to negotiate 5-year contracts for a fixed price of $90 per pound.

The local demand for bison meat has increased and much less of it is being exported from the province. Prices are stable and show little likelihood of changing. As the producers learn how to best prepare and market bison, the local market expands to consume all that is offered.

There have been a few attempts to fill some foreign export markets. Thirty carcasses were shipped to France for a trial market project. No follow up sales have developed to date but preliminary feed back has been good. Most attempts at developing markets such as this have failed because of inadequate supplies of animals and this project seems destined for the same fate.

Llama are generating a lot of interest, but to date no real market other than for breeding stock has emerged. A few people have tried to process the wool but costs have been high due to carding difficulties caused by thick guard hairs. A few people are using llamas as light duty pack animals. To date, the section has not conducted any research trials with llama and has restricted its activities to that of exchanging a modest amount of information gathered from various sources.

9. Warble Control

The level of warble infestation of carcasses at packing plants remained steady at 1.2% in 1989. The Warble Control Program continued to provide grants to Agricultural Service Boards to cover 60% of their costs for supervising warble inspections at auction markets and entry to grazing reserves. The branch continued to provide and supervise warble inspection at the Edmonton Public Stockyards.

Table 4 Warble Control Program Costs

1989	1988	1987	1986	1985
$156,292	$148,380	$164,040	$156,443	$157,969

10. Livestock Production Improvement Program

Grants are provided to Agricultural Service Boards to encourage them to include programs which will assist livestock producers in improving productivity in their herds and flocks. The grants cover 60% of program costs and are administered through the Rural Services Division. In addition to financial assistance, the Beef Cattle and Sheep Branch staff assist Agricultural Fieldmen and Field Services staff in designing field trials, and with workshops for field staff in planning field projects and reporting results.

Table 5 Livestock Production Improvement Grants

1989	1988	1987	1986	1985
$51,470	$23,648	$43,491	$42,133	$56,086

11. Black Fly Abatement

The Branch continued with the emphasis of developing systems for protecting livestock on farms in the absence river treatment to control black fly larvae at the breeding sites in the Athabasca River and its tributaries.

The County of Athabasca was provided with grants of $19,653 to assist them with the purchase and evaluation of specialized spray equipment, and to reimburse them for the costs of monitoring the black fly larvae populations in the Athabasca River and adult black fly populations at selected cattle herds in the district.

The Branch also continued with the second year of a three-year project to encourage farmers in the black fly affected areas to evaluate and adopt systems which prove effective in relieving livestock from black fly attack. The Department shares one third of the costs. The Agricultural Service Board has the option of sharing another third of the cost with the farmer paying the balance. Fifty-seven farmers installed sixty-three systems in 1989, with the Department providing $21,568 in incentive grants. Over the two years that the program has been in effect, 127 farmers have received grants of $40,901 from the Department.

The Beef Cattle and Sheep Branch, in cooperation with the Improvement District 18 South (Lac La Biche), and with the assistance of staff from the County of Athabasca, conducted a trial to evaluate the effectiveness of the biological larvicide Bacillus thuringensis 14 (BTH-14) in the black fly breeding sites in Duncan Creek, a tributary to the Athabasca River located north of Wandering River. The product proved not to be effective under the conditions of the trial. The trial will be repeated with different rates and different method of application in 1990.

12. Sheep R.O.P. (Record of Performance) Home Test Program

The federal-provincial sheep home test program continued to be administered from the Edmonton office of the Beef Cattle and Sheep Branch. There were 81 active breeders on the program in Alberta in 1989, with 7,153 eligible lambs registered, an increase of 6.7% from 1988.

Table 6 Enrollment in Sheep R.O.P. Home Test

(Eligible lambs)

1989	1988	1987	1986	1985
7,153	6,706	3,509	7,410	4,143

13. Alberta Ram Test Station

The Alberta Ram Test Station at Olds College enrolled 327 ram lambs from 51 contributors in 1989, compared with 221 lambs from 37 contributors in 1988. After a rigorous culling, 76 lambs were sold for an average price of $518. Record individual gains were set by three breeds: Hampshire, 0.645 kg/day; Dorset, 0.515 kg/day; and Rambouillet, 0.535 kg/day. The high selling ram lamb brought $2,400.

The Olds College renovated the test station facilities in 1989 and a new contract was signed with the college in early 1990.

Table 7 Central Ram Lamb Test Station Results 1985 - 1989

Year	Breeders on Program	Sheep Tested	A.D.G. Suffolk (Rams)	Head Sold	Average Price (all ram lambs)	Top Price
1985	8	*202	.532 kg	61	$421	$1350
1986	28	**238	.516 kg	51	416	950
1987	24	**190	.508 kg	64	558	2800
1988	37	*226	.518 kg	74	598	1650
1989	51	*327	.519 kg	76	518	2400

* Includes entries on Wool Breeds Test

** Includes entries on Wool Breeds Test and pilot pasture test which was discontinued in 1988.

14. Alberta Angora Goat Performance Test

Angora goat breeders continued to support the program to test the yield and quality of hair in a performance testing program conducted at the R.O.P. test facilities at the Olds College. In the second year of the program, 22 goats were entered, compared with 25 in 1988. At the conclusion of the test, two bucks were sold for an average price of $1,250. Forty goats have been entered on test in the fall of 1989, with the test to be completed in June, 1990.

Table 8 Alberta Angora Goat performance Test

Year	Greasy Fleece Weight (lb.)	Clean Fleece Weight (lb.)	Average Yield (%)	Average Fibre Diameter (microns)	Average Daily Gain (lb.)	Final Body Weight (lb.)
1988	13.4	10.0	74.8	39.2	0.28	123.8
1989	12.4	9.6	77.6	41.2	--	103.0

15. Beef Herd Management Program

The popularity of the beef herd reference binder and study guide continued, requiring a third printing of 2,000 copies. By the end of 1989, over 5,000 copies were sold. The first package of updated fact sheets to be added to the reference binder was distributed in the summer of 1989.

The "Cattle Improvement Program" (CIP) pocket record book was revised and new copies were distributed in January of 1990. Printing costs were shared by an industry sponsor for the first time.

Animal Management Section staff were involved in the reviewing and field testing of the "COWBYTES" software program for cattle nutrition, and in the continued development of the "COWCHIP$", integrated software program for beef herd management. Three of the five modules for the program have been completed and are in the process of field testing.

The Farming for the Future on-farm demonstration project to show the benefits of systematic beef herd management was completed and the results were reported. The results showed that significant improvements were made in all of the participating herds. For the ten participating herds, the adoption of the improved management strategies resulted in an estimated increase in gross income totalling $42,000, at an estimated cost of $7,000. Most of the improvement in gross income was due to improvement in calving pattern and calving span.

The survey beef herd developed to provide baseline information for producers adopting systematic beef herd management strategies continued to be popular. An additional 900 herds were added to the survey in 1989 to bring the total to 4,500 herds, representing over 300,000 cows - nearly 25% of the breeding herd in the province. Plans are in place to add another 1,500 herds from the southern part of the province in 1990. An analysis of the results of the surveys was given to each participating herd. Each herd owner also received a report with suggestions for improving herd performance and income. The analysis of all the surveyed herds in the province were prepared in a report which has been presented to a major scientific conference in 1989.

16. Feed Analysis Service

The objective of this program is to provide information on the nutrient quality of feedstuffs so the optimum levels of production can be achieved by producers. This is accomplished through the analysis of feeds for producers, extension staff and researchers. Emphasis is on the analysis of

farm grown feeds and ingredients available to feed manufacturers rather than commercial feeds. As such three categories of feedstuffs exist:

(1) regular for paid submissions from producers,

(2) demonstration for diagnostic and extension work by government staff, and

(3) research for special projects being conducted by university, federal and provincial government staff.

The Soils and Animal Nutrition Laboratory is operated by the Soils Branch, but the Feed Analysis Service is coordinated by the Laboratory Nutritionist of the Nutrition Section.

(a) Total Samples Analysed

The total number of samples received in 1989-90 was up 39.8% to 16,866 (Table 9). Most of this increase was in the research category that increased by 71.9% to 11,312 samples. Demonstration samples showed a modest 6.8% increase to 3,538 samples. The number of regular samples received continued to decline and in 1989-90 was 2,016. As a result of these shifts, samples in the research category now comprise 67% of the total number received (Table 9). This is the highest proportion of total samples experienced in the last 5 years.

The increased use of the feed analysis service by staff is consistent with policy. Regular and demonstration submissions continue to receive priority in the laboratory in order to provide for the best possible service to the public.

Table 9 Breakdown By Sample Submission Classification For The Past Five Fiscal Years

Sample Category	1985-86		1986-87		1987-88		1988-89		1989-90		Five Year Average	
	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total
Regular Samples	3,566	20.6	3,360	24.2	2,524	19.6	2,175	18.0	2,016	12.0	2,728	19.0
Demonstration Samples	2,295	13.3	3,055	22.0	3,189	24.8	3,312	27.5	3,538	21.0	3,077	21.0
Research Samples	11,412	66.1	7,456	53.8	7,151	55.6	6,577	54.5	11,312	67.0	8,781	60.0
Total Samples	17,273	100	13,873	100	12,864	100	12,064	100	16,866	100	14,586	100

(b) Frequency of Sample Submissions

The frequency distribution of samples received was similar to the pattern established in previous years (Table 10). Eighty-five percent of the total number of regular samples were received in the months of August to January inclusive. During this same time period, 71% of the demonstration samples were received, only 37% of the research samples were received which is an indication that the scheduling of research samples is proceeding as planned.

(c) Type of Regular Feeds Submitted

Within the category of regular samples, there was a relative increase of 34% for grains compared with last year (Table 11). This reflected a producer concern about grain quality as a result of poor harvest conditions in central and northern areas. Roughages (-7 %), silages (-4 %s) and mixed feeds (-31 %) showed relative declines compared to last year.

(d) Type of Analysis Requested

The analyses requested on regular submissions is primarily limited to the regular (basic) package offered (Table 12).

This is sufficient for the development of a feeding recommendation. Requests for trace mineral analyses were low (7.1% for copper, 3.0% for manganese, 3.2% for zinc, and 11.7% for selenium). This was in keeping with

recommendations from our nutritionists and production specialists. As a result of previous trace mineral analysis of feeds, specialists and nutritionists knew that trace mineral fortification was routinely required and hence no longer recommend routine trace mineral analysis. To keep the data base current, trace mineral analysis was done on a larger number of demonstration samples (36.7% for copper, 36.7% for manganese, 36.8% for zinc, and 32.9% for selenium). The purchase of a new ICP unit, used for the majority of trace mineral analysis, permitted trace mineral analyses to exceed previous years totals (Table 13). Table 14 indicates that N.D.F. analyses has increased substantially to 11.7% of total samples. This was primarily due to increased interest in N.D.F. analyses among researchers.

Requests for vitamin and amino acid analyses continued not to be serviced because the Agricultural Soils and Animal Nutrition Lab (ASANL) did not have the necessary equipment to provide this service. Branch funds were used to provide for outside amino acid analysis of 100 pea samples.

17. Development of Feeding Programs

Each feed analysis report was individually evaluated by the Laboratory Nutritionist and general comments on nutritional quality were made. In 1989-90, 993 regular and 929 demonstration reports were printed and evaluated (Table 15). This represents a 6% decrease in regular reports but a 9% increase in demonstration reports compared to last year.

Feeding programs were developed by nutritionists in response to requests that accompanied feed samples and that originated in other ways. Table 15 shows the total number of feeding programs developed by species. Prior to 1988-89, only the number of feeding programs requested with feed sample submissions were reported in Table 15, and therefore, the numbers do not necessarily represent an increase in activity in 1988-89. An increasing number of requests for feeding programs with samples analysed at other labs is occurring.

The total number of feeding programs completed by Nutrition Section and Horse Industry Branch staff increased substantially in 1989-90. In addition, regional specialists report an increased number of requests for this service as well.

Three staff members were involved in the development of ration formulation software for the use of department staff in formulating beef, dairy and sheep feeding programs. The beef version "Cowbytes" is ready for general distribution. Feedback from staff users who tested this program indicated that this was a very worthwhile project.

Table 10 Frequency of 1989-90 Fiscal Year Samples According to the Month Received and Submission Classification

Month	Total	Regular	Demonstration	Research
April	1,720	44	175	1,501
May	1,297	36	128	1,133
June	170	31	107	32
July	419	48	253	118
August	610	91	427	92
September	1,015	174	358	483
October	1,384	594	691	99
November	1,976	452	530	994
December	631	232	255	144
January	2,741	174	238	2,329
February	2,581	95	257	2,229
March	2,322	45	119	2,158
Total	16,866	2,016	3,538	11,312

Table 11 Frequency Of Regular Sample Feed Types By Fiscal Year *

Month	Total		Grains		Roughages		Silages		Mixed Feeds*	
	1988-89	1989-90	1988-89	1989-90	1988-89	1989-90	1988-89	1989-90	1988-89	1989-90
April	67	44	8	10	28	19	3	7	28	8
May	21	36	2	2	11	16	3	1	5	17
June	32	31	3	3	13	12	3	1	13	15
July	44	48	7	0	26	35	4	7	7	6
August	123	91	6	3	92	64	11	23	14	1
September	317	174	46	14	207	138	41	13	23	9
October	413	594	83	197	293	356	17	30	20	11
November	480	452	87	96	308	284	57	48	28	24
December	235	232	23	45	153	137	48	37	11	13
January	187	174	32	30	109	104	30	32	16	8
February	93	95	8	23	65	45	7	20	13	7
March	60	45	11	0	27	26	10	6	12	13
Total	2,072	2,016+	316	423	1,332	1,236	234	225	190	132

* Mixed feeds is a new category that was introduced in 1987.

\+ Includes special samples that were submitted.

Table 12 Distribution of Chemical Analyses of Alberta Feedstuffs by Sample Submission
1989-90 Fiscal Year

Analysis	Regular	%	Demon-stration	%	Research	%	Total Number of Analyses	%
Basic Package*	2,016	74.58	3,538	17.77	11,312	26.57	16,866	25.87
Carotene	10	0.37	71	0.36	0	0.00	81	0.12
Fat	12	0.44	69	0.35	540	1.27	621	0.95
Selenium	236	8.73	1,163	5.84	1,170	2.75	2,569	3.94
Salt	9	0.33	179	0.90	0	0.00	188	0.29
Ash	5	0.18	35	0.18	116	0.27	156	0.24
Copper	143	5.29	1,300	6.53	3,719	8.73	5,162	7.92
Manganese	60	2.22	1,299	6.53	3,419	8.03	4,778	7.33
Zinc	66	2.44	1,301	6.54	3,652	8.58	5,019	7.70
Iron	5	0.18	1,297	6.51	2,719	6.39	4,021	6.17
Magnesium	47	1.74	1,300	6.53	2,927	6.87	4,274	6.56
Potassium	25	0.92	1,300	6.53	3,514	8.25	4,839	7.42
Sodium	0	0.00	1,300	6.53	1,365	3.21	2,665	4.09
Aluminum	0	0.00	1,239	6.22	629	1.48	1,868	2.87
Molybdenum	14	0.52	1,297	6.51	478	1.12	1,789	2.74
Sulphur	24	0.89	1,083	5.44	3,867	9.08	4,974	7.63
A.D.I.P.	30	1.11	184	0.92	158	0.37	372	0.57
Prussic Acid	0	0.00	22	0.11	0	0.00	22	0.03
Boron	0	0.00	445	2.24	478	1.12	923	1.42
Cobalt	1	0.04	1,297	6.51	372	0.87	1,670	2.56
N.D.F.	0	0.00	82	0.41	1,885	4.43	1,967	3.02
Lignin	0	0.00	52	0.26	262	0.62	314	0.48
Crude Fibre	0	0.00	55	0.28	0	0.00	55	0.08
Total	2,703		19,908		42,582		65,193	

* Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages; plus pH determination is also done on silages.
Grain sample analysis includes bushel weight, moisture, protein, phosphorus, with average calcium values being provided (*Package analysis on Research submissions often consists of moisture and one other analysis only).

Table 13 The Number and Types of Chemical Analyses on Alberta Feedstuffs Over the Past Five Fiscal Years

Analysis	1985-86	1986-87	1987-88	1988-89	1989-90	Average
Basic Package	17,273	13,871	12,864	12,064	16,866	14,588
Carotene	242	213	124	56	81	143
Fat	347	211	357	212	621	350
Selenium	1,758	2,342	1,220	1,564	2,569	1,891
Salt	674	54	45	217	188	236
Ash	2,132	155	1,183	592	156	844
Copper	3,087	2,668	1,994	3,011	5,162	3,184
Manganese	2,139	2,230	1,882	2,945	4,778	2,795
Zinc	1,879	2,582	1,662	2,988	5,019	2,826
Iron	2,378	869	730	1,658	4,021	1,931
Magnesium	2,264	1,507	675	1,822	4,274	2,108
Potassium	1,346	1,750	1,590	1,764	4,839	2,258
Sodium	1,024	224	249	1,275	2,665	1,087
Aluminum	1,403	47	82	1,198	1,868	920
Molybdenum	1,403	453	217	1,506	1,789	1,074
Sulphur	31	1,617	1,379	1,888	4,974	1,978
Cadmium	290	35	0	0	0	65
A.D.I.P.	5	339	488	676	372	376
Prussic Acid	3	18	15	4	22	12
Boron	964	556	929	1,322	923	939
Nickel	1,021	29	0	7	0	211
Cobalt	813	241	13	1,202	1,670	788
N.D.F.	838	232	865	89	1,967	798
Lignin	0	80	799	605	314	360

* Basic Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein and phosphorus on grain samples.

Basic analysis on research samples often consists of moisture and one other analysis.

Table 14 Selected Types of Analyses Requested as a Percent of Total Samples Received

Analysis Conducted	1984-85 (%)	1985-86 (%)	1986-87 (%)	1987-88 (%)	1988-89 (%)	Average % 1984 to 88-89	1989-90 (%)	1989-90 Analyses
Selenium	8.8	10.2	16.9	9.5	13.1	11.7	15.2	2,569
Copper	8.3	12.3	19.2	15.5	25.2	16.1	30.6	5,162
Manganese	7.6	12.1	16.1	14.6	24.7	15.0	28.3	4,778
Zinc	8.3	12.4	18.6	12.6	25.0	15.4	29.8	5,019
Boron	2.7	8.5	4.0	7.2	11.1	6.7	5.5	923
Magnesium	6.1	13.8	10.9	5.2	15.3	10.3	25.3	4,274
Potassium	5.8	13.1	12.6	12.4	14.8	11.7	28.7	4,839
Sulphur	5.3	10.4	11.7	10.7	15.8	10.8	29.5	4,974
A.D.I.P.	1.0	1.7	2.4	3.8	5.7	2.9	2.2	372
Fat	0.9	2.0	1.5	2.8	1.8	1.8	3.7	621
N.D.F.	5.0	4.7	1.7	6.7	0.7	3.8	11.7	1,967
Lignin	0.6	4.9	0.6	6.2	5.1	3.5	1.9	314
Total Samples	19,226	17,273	13,871	12,864	11,936	15,431	16,866	16,866

Table 15 Number of Feeding Programs* Requests on Regular and Demonstration Reports Printed for the Past Five Years.

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89+	Five Year Average	1989-90
Number of Regular Reports	1,618	1,753	1,750	1,585	1,207	1,056	1,470	993
Demonstration Reports	792	965	882	793	773	854	853	929
Species:								
Beef	196	183	146	113	60	121	125	155
Dairy	73	49	25	42	7	63	37	64
Swine	88	56	39	41	18	49	41	57
Sheep	21	14	6	6	6	18	10	23
Horses	37	17	17	24	6	25	18	42
Poultry	7	6	6	5	1	0	4	10
Others	5	2	1	0	5	8	3	17
Total	427	327	240	231	103	284	238	368
Feeding programs as a percent of regular and demo reports (%)	17.7	12.0	9.1	9.7	5.2	14.9	10.2	19.1

* A feeding program usually involves several specific ration recommendations.

+ Prior to 1988-89 only requests received with feed samples were reported.

18. Livestock Predator and Beeyard Compensation Programs

Since October, 1987, these programs have been administered by the Acting Head of the Nutrition Section. Decisions concerning compensation are made by the Administrator or referred to a committee consisting of two representatives of Alberta Agriculture, two from Fish & Wildlife Division, and four appointed producers. Separate committees exist for the Peace Region and the remainder of the province.

The purpose of these programs is to compensate farmers for up to 80% of the losses suffered through predation of livestock or bear damage to beeyards. Table 16 summarizes the claims processed under the two programs for the 1989-90 and previous years. The amount of funds and the number of claims approved in 1989 are higher that the 5 year average for the livestock and the beeyard programs. In 1989-90, there was a substantial increase in claims due to coyote and bear predation (Table 17). Details as to predator species/livestock loss combinations are provided in Table 18. Table 19 provides the dollar value loss by predator species.

Table 16 Number of Approved Predator Loss Claims by Species of Predator and Livestock Type, 1989-90

Predator Species	Cattle	Calves	Sheep	Goats	Swine	Poultry	# of Claims
SOUTHERN COMMITTEE							
Coyotes	13	477	1,106	59	85	564	685
Bears	9	37	3	0	0	0	40
Wolves	16	21	4	2	1	0	25
Others	0	5	143	0	25	1,668	64
Sub-Total	38	540	1,256	61	111	2,232	814
PEACE RIVER COMMITTEE							
Coyotes	1	30	196	2	3	17	69
Bears	6	28	23	0	12	47	44
Wolves	14	25	0	0	0	0	17
Others	0	2	15	0	1	46	5
Sub-Total	21	85	234	2	16	110	135
TOTALS:	59	625	1,490	63	127	2,342	949

Table 17 Approved Livestock Loss Claims by Predator Species

	Bears	Coyotes	Wolves	Others	Totals
1985	60	419	46	53	578
1986	95	431	58	69	653
1987	119	464	37	75	695
1988	54	594	47	71	766
1989-90	84	754	42	69	949
5 Year Average	82	532	46	67	728

Table 18 Summary of Claims Processed

	Predators		Beeyards	
	$	# of Claims Approved/Processed	$	# of Claims Approved/Processed
1985	$176,849.40	578/751	$5,364.80	18/31
1986	$200,718.74	653/871	$4,134.00	21/25
1987	$232,265.27	695/904	$5,146.45	27/41
1988	$223,803.03	766/978	$2,594.00	8/10
1989-90	$259,164.22	949/1237	$6,236.00	25/32
5 Year Average	$218,560.13	728/948	$4,695.05	20/28

Table 19 Value of Approved Predator Loss by Predator Species and Area for 1989-90

	Bears	Coyotes	Wolves	Others	Total
Southern	16,429.00	171,312.22	16,572.00	15,367.06	219,680.28
Peace River	12,716.36	14,252.98	11,237.50	1,277.10	39,483.94
Total	29,145.36	185,565.20	27,809.50	16,644.16	259,164.22

III RESEARCH AND DEVELOPMENT

Research was undertaken by branch staff and regional specialists in cooperation with D.A.'s, producers, and other organizations that focus on livestock production. Our involvement varied from conducting the entire experiment to consulting on design and/or statistical analysis of the data. A number of projects were funded by the on-farm demonstration program of Farming For The Future. The major projects handled by the branch are provided on the following pages.

A. Reproduction

1. The effect of 48 hour calf removal on reproduction efficiency in commercial cow herds. Final report submitted.
2. Embryo transfer in a commercial dairy herd.
3. Synovex-C in replacement heifers. Final report submitted.
4. Synovex-C or Ralgro in replacement heifers. Data through pre-breeding collected; progress report to breeding being written.
5. Clitoral stimulation in dairy cows as it relates to conception rates. Final report submitted.
6. Lamont total beef herd management. Final report submitted.
7. GnRh in dairy cows. Final report submitted.
8. Use of pelvic measurements in heifers. Final report submitted; model to predict dystocia in first calf heifers developed.
9. Validation of dystocia prediction model. Data collected on approximately 1000 heifers to date; more heifers to enter study at preg-check time.
10. Bull pelvic area study to identify sires which produce easy calving heifers. Data collected on approximately 1700 yearling bulls; awaiting analysis and single-sire follow-up.
11. Relaxin in sheep. Study aborted due to lack of producer cooperation and inadequate record keeping.
12. Use of MGA in heifers. Data collected at fall pregnancy check; awaiting hormone and calving data.

13. Use of ultrasound to determine lamb numbers for differential feeding during last trimester of pregnancy. Proposal drafted and accepted by Farming for the Future; project failed due to lack of equipment.
14. Horn vs body breeding with 1/4 cc and 1/2 cc straws. Cooperators signed up; awaiting data collection.
15. mRNA for IGF-I, IGF-I type I receptor and GH receptor in bovine follicles. Part of Brian Cameron's masters program.
16. Use of a vaginal/vulva probe to predict estrus in dairy cows. Major part of Brian Cameron's masters program. Data collected; analysis under way.
17. Follicular IGF-I in postpartum beef cows. Manuscript drafted and submitted for publication.
18. Studies on mink fertility.
19. Analysis of the effects of trace minerals, estrumate and pasture type on growth and reproduction in heifers.

B. Livestock Entomology

1. Continuation of studies on the incidence of black fly larvae and monitoring in tributary streams.
2. Continuing evaluation in cooperation with Ag Service Boards, ID 18 (Lac La Biche) and the Lakeland Forage Association of on-farm methods for protection of livestock from biting flies.
3. Evaluation of Permethrin pour-on for sheep ked control.
4. Initiated trials in cooperation with Olds College and the Angora performance test patrons to test products for lice control.
5. Analysis of the 1988-89 warble control program.
6. Alberta cattle grub control program towards eradication of Hypoderma spp. - A twenty year analysis 1968-88.
7. Sanbar for ked control in sheep.
8. Control of lice in goats.
9. Ectiban in self-treatment oilers for relief from biting flies.
10. Synergized eartags for horn fly control.
11. BTH-14 treatment of small streams for black flylarvae control.
12. Horn fly resistance in Castor and Wainwright areas.
13. Stable fly control in dairy barns in central Alberta.
14. Darkling beetle control in poultry houses.

C. Beef Management

1. Lamont Farming for the Future, on-farm demonstration to improve production efficiency in cow-calf herds.
2. Electrolyte supplementation on newly arrived feeder calves.
3. Cost of marketing stress in feeder calves.
4. Pricing information over 7 years for feeder and fat cattle - predicting feeder price.
5. The relationship between a sire's EPDs and the performance of his progeny.
6. Pelvic area in various breeds of beef bulls.

D. Sheep and Goats

1. Development of carrier ewe flock for spider lamb gene.
2. Farming for the future project to improve production of wool and lamb (Cherhill Project).
3. Eradication of Ovine Progressive Pneumonia (OPP)(Spirit River Project) entering final year.
4. Pelleted feeds for lamb production.

E. Feeding and Nutrition

1. Analysis of nutrient differences among pea varieties grown in Alberta.
2. Comparison of Sorghum and barley silage as a feed for feedlot cattle.
3. Evaluation of triticale (grain and silage) as an alternate feed for heifers/steers in feedlot.
4. Analysis of creep feeding protein meal for suckling calves.
5. The effect of whole vs rolled high moisture barley with or without ammonia on gain and efficiency of growing and finishing steers.
6. Effects of treating cattle with vitamin A on pasture.
7. Predicting nutrient requirements of cattle based on size, intake, gain and NRC recommendations.
8. Analysis of Chinchila data - comparison of two feeds.
9. Effects of dietary protein, fat levels on feedlot performance and carcass quality of finishing beef animals.
10. A study on the effects of feeding canola creep to growing calves.
11. A study on the effect of feeding pea creep to calves on pasture.
12. Assessment of complete pelleted diets for growing lambs.
13. A study to evaluate different creep feeding systems for suckling calves on brome pasture in NE Alberta.
14. Effects of fertilizer application on pasture and animal productivity in Pembina grazing pastures.
15. Comparison of yields among Timothy varieties.
16. Ruminant Feed Evaluation Unit with University of Alberta.
17. Continued ammoniated HM Barley work with University of Alberta.
18. Nutri-Shield on-farm demo project with Region 3 staff.

19. Frequency of feeding of feedlot beef cattle with Region 3 staff.
20. Initiated HM Barley trial with Region 3 staff.
21. Completed feedlot lamb trial at Olds College.
22. Participated in cost of shrink trial with Branch staff.
23. Continued an expanded Feed Mixing trial with Farm Machinery Branch in Lethbridge.
24. Completed a Time of Feeding Beef Cattle trial with University of Alberta.
25. Cooperated with Public Lands Division on a range quality survey in the Peace region.
26. Cooperated in a Field Pea Swine Digestibility trial with University of Alberta.
27. Cooperated in a Swine Probiotic trial with University of Alberta.
28. Cooperated with Region 5 staff in an evaluation of the amino acid profile of Alberta field peas.
29. Cooperated with regional staff in a swine on farm demo trial with Condor barley and field peas.
30. Cooperated with regional dairy specialists in an on farm demo trial to evaluate peas for lactating cows and a pasture management trial.
31. Continued to cooperate with Agriculture Canada (Lacombe) in an evaluation of the sila wrap technique.

F. Animal Performance and Growth

1. Analysis of the effects of pasturella h. vaccine on gain and performance of cattle in southern Alberta feedlots.
2. Comparison of one and two treatments of Ivermectin on growth of steers on a rapid pasture rotation.
3. Comparison of growth hormone, insulin and IGF-I among cattle of differing sizes.
4. 1989 Synovex-C trial at Fort Vermilion grazing reserve.
5. Studies on allometric and other growth relationships among beef heifers during gestation and their relevance to dystocia.
6. Analysis of hog slaughter and price data.
7. Evaluation of economic variables as they relate to productivity in grazing pastureland in northwest Alberta.
8. Studies on dehorning steers in Alberta feedlots (Combination of seven studies).
9. Studies on the effects of dehorning, castration or both on feedlot animals (Combination of 5 studies).
10. The effect of disease frequency on bull performance in R.O.P. tests.
11. Disease status and its effects on growth among test station bulls.
12. Within and between breed variation in cold hardiness of cattle.
13. Identification and classification of bulls with high and low propensities for growth in R.O.P. tests.
14. Analysis of technician differences among measured and actual backfat in pigs.

G. Beef Cattle Management, Production Economics and Surveys

1. The effect of the beef survey on production levels and management practices of cow calf herds in the County of Camrose.
2. Strategies for reducing the calving span.
3. Evaluation of the production and economic impact of respiratory disease in feedlots.
4. Analysis of marketing trends (number and price) among Alberta cattle.
5. Production levels of cow calf producers in north central Alberta.
6. Preparation of questionnaires for dairy and poultry surveys in Alberta.
7. Analysis of Alberta producer compliance/audit program - cow calf and feeder cattle 1988-1989.

H. Other

1. Analysis of the causes of mortality among chicks in large and small holdings.
2. Varietal, innoculant and fertilizer effects of productivity of field peas.
3. Effects of seed infected ascochyta disease on field pea yields.
4. Comparison of the use of Cam-Liquid and dry-urea nitrogen on yields of canola in two locations.
5. Exploratory studies on the feasibility of applying linear scores to DHI Somatic cell count data in Alberta.
6. Analysis of DHI-SCC information.

I. Animal Genetics Discussion Group

We continue with the informal animal genetics discussion group meetings with the staff and graduate students in the Department of Animal Science, University of Alberta. The discussion on specific subjects (issues) have been useful to all concerned. We hope to continue with these meetings for another year. Nine meetings were conducted during 89/90 year.

J. Research Update

The research conducted in the branch is highlighted in summary form in a bi-annual research update. The update also contains information in summary form, from Journal articles that relate to present and future animal production needs and interests in the province.

K. Scientific Meetings/Seminars

Branch staff presented papers from original research conducted at the western section, American Society of Animal Science/Canadian Society of Animal Science meetings in Bozeman, Montana; American dairy science/American Society of Animal Science meetings in Lexington, Kentucky; Canada West Society for reproductive biology, Vancouver, British Columbia; 18th International Congress on Entomology, Vancouver, British Columbia; and other provincial seminars and workshops. Ten papers have been submitted and accepted either as theatre or poster presentations at the Agriculture Institute of Canada (AIC); Canadian Society of Animal Science (CSAS) meetings in Penticton, British Columbia, 1990; and one paper is to be presented at the Western Section ASAS meetings in Reno, Nevada, July, 1990.

IV. TECHNOLOGY TRANSFER

Branch staff were involved in enhancing the process of incorporating improved husbandry practices on farms through their extension activities. Producer meetings, telephone, personal contacts and correspondence, mass media releases, newsletters, factsheets and on-farm demonstrations were used to distribute information to department staff, primary producers, industry, other government agencies and the general public. Technology transfer continued to be the major activity of branch staff.

A. Workshops, Extension Meetings and Field Days

The branch organized and/or participated in a number of major ways in numerous conferences, seminars, meetings, workshops and field days. The Alberta Beef Symposium, Alberta Sheep Symposium, Managing Agricultural Technology for Profit, Alberta Dairy Seminar, Alberta Pork Seminar, Alberta Pork Congress and the Feed Industry Conference were some of these events.

An in-service workshop on integrated beef herd management was conducted for district agriculturists and other department staff.

More than 25 meetings on systematic beef herd management meetings were resourced by branch staff. Some of the other topics addressed at extension meetings by branch staff were: sheep and goat production; food safety; various aspects of beef, dairy and sheep reproduction; predator and insect pest control; options in beef marketing; beef and sheep genetics and breeding programs.

Nutrition section staff resourced 38 extension meetings for producers, eight staff training events, one feed industry seminar and two seminars for veterinarians. These were similar in number to the previous year. In dairy, the topics requested were related to raising replacements, condition scoring and feeding peas. Beef topics included after calving nutrition, bloat, mineral supplementation and using poor quality feeds. Sheep topics included lamb feeding and winter nutrition of ewes. Swine producers were interested in feeding low bushel weight grain, alternate protein sources, feeding peas and sow nutrition. Goat producers requested information on general nutrition and ionophores.

B. Mass Media Presentations

Branch staff were active in preparing news releases on various topics for radio and the popular press. At least 40 articles were prepared for Agri-News, Call of the Land, newspapers, radio stations and/or trade magazines. Research presentations, papers and the research update newsletter are noted in Section III, Research and Development. The branch continued to publish Sheep Footnotes on a regular monthly basis. Videos were prepared on systematic beef herd management, dairy reproduction and condition scoring of dairy cows.

The emphasis on major publications was on doing major revisions to the Alberta Sheep Production Manual and the Cattle Nutrition Home Study Course. Work began on the development of a Beef Backgounding and Feedlot Reference Binder.

C. Requests for Service

Responding to individual requests from department staff, producers, other government departments, agribusiness, veterinarians, private consultants, local governments, Agriculture Canada and the research community continued to be a major component of the branch's extension efforts.

Requests ranged from very specific to general in nature and included topics related to virtually all aspect and species of livestock.

Participation in disease investigations and referrals from veterinarians are occurring more frequently, particularly in areas relating to animal nutrition and beef herd management.

V. STAFF DEVELOPMENT

Branch staff attended a number of workshops, seminars, courses and professional society meetings during the year. Emphasis was placed on having a staff member attended major out of province events and then report back to staff upon return. The purpose was to improve personal, professional and managerial skill and to keep staff abreast of new subject matter developments. There continued to be considerable emphasis on improving computer use skills.

VI. STAFF CHANGES

Don Scheer remained on secondment to the Alberta Crow Benefit Offset Program. There were no changes in permanent staff. Darrell Bignell and Phyllis Day were hired on temporary staff to work as a computer programmer and a research assistant, respectively.

DAIRY

PROCESSING

BRANCH

OVERVIEW

Total milk supply was up slightly from the previous year. Fluid milk sales, on a per capita basis, continued to improve but were still below the level of previous years. Better quota management by producers resulted in no milk being shipped out of the province during the "flush" season. During this time, the milk drying plants and some cheese manufacturing plants were operating at near maximum capacity.

Restructuring of the dairy industry was a controversial topic during the year. The allocation of milk to the plants, particularly the independent ones, and the responsibility for milk assembly, transportation and allocation were the main issues. The pricing of milk, particularly the sub-classes in Class 3, was also a topic of discussion.

Dairy Manufacturing Plants

The renovation and modernization of plants continued in varying degrees of complexity. A level of interest continued for the establishment of dairy manufacturing plants, particularly for the manufacturing of cheese and the use of goat's milk. Although several enquiries were received, no applications were submitted.

Existing plants continued to investigate the addition of product lines to their operation. Two firms introduced an acidophilus milk during the year. In one instance, only the acidophilus organism was added to the milk while in the other, both acidophilus and bifido bacteria were added.

Sales of milk in plastic jugs appear to have dropped significantly by year end. A number of consumers have contacted the Branch to express their concern over the flavour of the milk in this type of container. With the growing awareness of the need to protect the environment, some consumers are questioning the use of the plastic jugs. No recycling program is in place for this container in most of the province. Some consumers are hesitant to dispose of the jugs with the normal garbage and have apparently returned to the paperboard carton. Jug sales are reported to be down by over 30% in the province.

The major program introduced two years ago for the inspection and testing of milk pasteurization units continued as high priority. All components of the pasteurizers are inspected and subjected to a variety of tests to ensure that all dairy products processed through them are effectively pasteurized and that the pasteurized products cannot be contaminated with raw product. All plants have completed the necessary modifications and have had the units approved. All pasteurization units are inspected and tested at least once a year. Testing is also required following certain repairs or modifications to the units. The cooperation from and interest by the industry have been exceptionally good. Alberta is one of three provinces actively involved in a pasteurizer inspection program.

As all operators of pasteurization units must be licensed, the Branch has prepared a Pasteurizer Operator Training and Testing Program, using the Pasteurizer Operator Manual as the main study guide. Ten courses were held throughout the province in the fiscal year.

Of the 155 operators who attended the course, 142 successfully completed the examination and were eligible for a Pasteurizer Operator's Licence. Two courses are tentatively scheduled in the coming year.

A special Pasteurizer Operator course was held at the request of Agriculture Canada for their dairy inspectors across Canada. This federal department recognized the requirement to have these inspectors more knowledgeable in operating requirements.

Plant inspection programs were continued to ensure compliance of all Alberta dairy manufacturing facilities and their products with existing regulations.

The Branch continued to participate in the federal in-depth plant inspection program. Alberta plants continue to have the highest scores in the country. As the plants get older, the scores are dropping with the gap between our average score and that of other provinces becoming narrower.

The Branch also continued to participate and represent the four western provinces on a committee to review and update the plant inspection program. This is the first major review since the program was introduced in 1971. The committee members represent provincial and federal governments and the dairy industry.

Current positions and comparative data for last year are as follows:

	1988-89	1989-90
Alberta Average Plant Score	83.3	81.7
National Average Plant Score	80.2	79.6
Lowest Scoring Plant in Alberta	75.8	77.6
Highest Scoring Plant in Alberta	98.4	95.0

Dairy Products

Bacteriological and compositional standards of fluid and manufactured dairy products remained very high and substantially higher than the regulatory minimum. The Branch continued to concentrate on milk product keeping quality as reflected by a stressed product test as the yardstick by which quality was measured. This more stringent test is necessary since products must remain fully acceptable to consumers after sometimes lengthy periods in the distribution system, not always under ideal storage conditions. Dairy processing specialists investigated isolated lapses in quality rather than chronic difficulties in producing satisfactory products.

Virtually all freshly processed milk met health standards. After subjection to severe conditions (7 days at 7°C), 75.8% were still within requirements of the regulations. The Branch continues to work towards 100% compliance at both levels.

Licensing

Licenses Issued	1988-89	1989-90
Milk and Cream Graders & Testers	58	56
Cream Graders	36	30
Plant Milk Graders	112	116
Bulk Tank Milk Graders	235	239
Dairy Manufacturing Plants	47	45

Regulatory

Dairy Processing Specialist activities in regulatory functions were:

	1988-89	1989-90
Dairy Plant Inspections	562	472
Cream Grades Checked	775	673
Cream Grades Adjusted	0	0
Cream Tests Checked	606	547
Cream Tests Adjusted	0	0
Bulk Tank Trucks & Drivers Inspected	163	189

Margarine

The Branch's responsibilities under the Margarine Act were carried out at a similar level of activity as in previous years. Margarine produced and/or sold in the province was sampled and analyzed throughout the year and found to comply fully with compositional requirements.

Regulatory Enforcement

A significant shipment of imitation cheese was seized in Calgary. The importer of record had been warned on previous occasions that this product could not legally be sold in Alberta. Charges were filed and the trial is scheduled for the last half of 1990. Follow-up inspections have indicated the product is no longer being used by pizza parlours.

There are continued attempts to market other imitation dairy products in contravention of the Dairy Industry Act. As well as infringing on the Dairy Industry Act, methods and information used by promoters frequently contravened other regulations, e.g. those of the Health Protection Branch, and Consumer and Corporate Affairs Canada.

Extension

Dairy processing specialists worked closely with dairy processors in the implementation of technological changes and in broadening the range of dairy processing in the province. A major extension activity in recent

years has been a voluntary certification program for dairy plant employees to assist in attaining improved quality through increased education and awareness. Lower turnover of staff in most dairy plants accounts for the reduction in issue of Dairy Plant Worker certificates. The awarding of certificates in specialist categories such as Cheesemaker and Plant Sanitarian has remained steady.

The licensing of Milk and Cream Graders and Testers and Bulk Milk Graders is a legislative responsibility of this Branch. In view of the important role of the Bulk Milk Grader in the collection of samples on which the producer is paid, the Branch has increased emphasis on testing and inspection of Bulk Milk Graders.

Follow-up investigations were carried out when significant variations were found on the producer samples taken by the Bulk Milk Graders. In most cases, the increased surveillance resulted in more attention being paid to proper pick-up procedures. Additional follow-up work was conducted or is planned when problems continue to exist.

The Bulk Milk Grader's Manual was rewritten during the year. This study guide is used for the training and testing of the licensed bulk milk graders who pick up milk at the farm level. The revision of the Cheesemaker's Manual commenced during the year and is scheduled for completion next year.

Together with Agriculture Canada and the Alberta Dairymen's Association, the Dairy Processing Branch continues to be active in sponsoring and judging dairy product quality competitions. Competitions are based on bi-monthly samples. Winners are recognized annually at the Dairymen's Convention.

Special Projects

The principle activity of Special Projects related to the investigation of the illegal sale of imitation dairy products, notably imitation cheese, and the enforcement of the Dairy Industry Act with respect to imitation dairy products.

Other activities included the coordination of the Alberta Career Development, Alberta Dairymen's Association, and dairy industry relations with respect to the training and licensing of Pasteurizer Operators; participation in the Pasteurizer Operators Courses; farm bulk milk transportation study; report on producer security; ongoing consultation with industry on regulatory and legislative matters; and investigation and assisting in the resolution of problems associated with the dairy industry.

On behalf of the department, Special Projects continued to work with the private and public sectors on matters relating to aquaculture, and assisted industry in the organization of an association to represent their interests.

TABLE I Estimated Production and Value of Factory Dairy Products April 1989 - March 1990

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during April 1989 to March 1990, with corresponding figures for 1988-89 added to provide a means for comparison.

	Year*	Quantity ' 000	Price $	Value $ '000
Creamery Butter (kgs)	1989-90	7,147 kg	5.687/kg	40,645
	1988-89	5,972 kg	4.406/kg	26,315
Cheddar Cheese (kgs)	1989-90	7,057 kg	7.337/kg	51,777
	1988-89	7,141 kg	5.566/kg	46,887
Variety Cheese (kgs)	1989-90	5,588 kg	7.160/kg	40,010
	1988-89	5,438 kg	5.766/kg	28,957
Ice Cream[1](litres)	1989-90	28,576 L	2.110/L	60,295
	1988-89	29,425 L	1.930/L	56,790
Fluid Milk Sales** (litres)	1989-90	243,028 L	0.866/L	210,462
	1988-89	256,287 L	0.809/L	207,336
Fluid Cream Sales (litres)	1989-90	10,334 L	3.136/L	32,407
	1988-89	10,260 L	2.838/L	29,120
Buttermilk, Chocolate Milk, and Eggnog (litres)	1989-90	18,125 L	0.985/L	17,853
	1988-89	16,693 L	1.048/L	17,494
Miscellaneous Manufactured Cultured Products[2]	1989-90			130,281
	1988-89			118,745
TOTAL	1989-90			583,730
	1988-89			531,644

[1] Includes hard and soft ice cream.

[2] Includes concentrated milk products, cottage cheese, whey cheese, yogourt and yogourt mix (hard and soft).

* April to March.
** Skimmilk has been included in fluid milk.

TABLE II Alberta Dairy Statistics 1960-1989

YEAR	TOTAL MILK	ICE CREAM		BUTTER	
	1,000,000 of Units	Production '000	# Plants	Production '000	# Plants
1960	1,650 lb	3,632 gal	18	37,338 lb	86
1965	1,641 lb	5,242 gal	16	36,562 lb	81
1970	1,529 lb	5,634 gal	16	29,311 lb	59
1973	1,396 lb	6,332 gal	15	23,282 lb	46
1974	1,284 lb	6,588 gal	16	18,695 lb	36
1975	1,276 lb	6,671 gal	16	20,587 lb	33
1976	1,273 lb	6,713 gal	14	17,843 lb	25
1977 (1)	1,251 lb	6,835 gal	11	18,342 lb	19
1978	426 hL	31,859 L	10	6,946 kg	19
1979	450 hL	30,343 L	10	7,117 kg	18
1980	480 hL	31,906 L	10	7,863 kg	16
1981	528 hL	27,873 L	8	8,260 kg	13
1982	585 hL	27,797 L	8	8,475 kg	13
1983	564 hL	30,891 L	8	7,800 kg	13
1984	584 hL	31,457 L	9	8,161 kg	11
1985	562 hL	31,287 L	10	6,372 kg	11
1986	579 hL	31,108 L	10	7,409 kg	11
1987	589 hL	29,695 L	11	7,062 kg	11
1988	609 hL	30,064 L	15	7,019 kg	6
1989	664 hL	28,476 L	16	7,147 kg	6

(1) Prior to 1977, yearly totals were calculated on a calendar year basis. From 1977 to date, all figures are based on a fiscal year basis (April 1 to March 31).

Alberta Dairy Statistics 1960-1989

CHEDDAR CHEESE		VARIETY CHEESE		FLUID MILK SALES (2)
Production '000	# Plants	Production '000	# Plants	'000
1,760 lb	7	---		382,835 lb
2,188 lb	6	---		384,034 lb
3,357 lb	6	155 lb	3	414,034 lb
4,768 lb	6	913 lb	4	451,516 lb
4,884 lb	6	2,186 lb	6	466,816 lb
6,307 lb	7	2,406 lb	6	468,599 lb
6,872 lb	7	3,161 lb	6	175,219 qt
8,013 lb	6	4,557 lb	6	197,238 L
3,935 kg	6	2,386 kg	8	202,171 L
3,649 kg	6	3,007 kg	11	248,936 L
3,921 kg	6	3,159 kg	11	263,016 L
3,599 kg	6	3,321 kg	11	270,931 L
4,023 kg	6	3,651 kg	10	269,783 L
4,160 kg	6	3,533 kg	10	261,411 L
5,768 kg	6	3,787 kg	10	256,798 L
6,315 kg	6	5,220 kg	10	256,032 L
6,822 kg	6	5,022 kg	10	256,989 L
6,836 kg	7	5,427 kg	9	266,980 L
7,316 kg	7	5,505 kg	11	256,287 L
7,057 kg	7	5,587 kg	11	271,487 L

(2) Includes Homo, 2%, 1%, Chocolate, Skimmilk, and Buttermilk.

DAIRY
PRODUCTION
BRANCH

The Branch is primarily responsible for regulatory and advisory services relating to dairy production in Alberta. Regulatory activities include dairy farm inspection, milk quality monitoring on farms, and advising producers on quality milk production issues. Support coordination is provided to dairy extension programs and services at the regional and district levels. A grant was provided to Alberta Dairy Herd Improvement Services to support milk recording services in the province.

Branch staff were involved in several on-farm demonstration and research projects. A major initiative was undertaken in cooperation with Animal Health Division to determine the presence of Nocardia mastitis in Alberta dairy herds. Bulk milk samples from all Alberta dairy herds were tested monthly. Those producers whose samples were positive for Nocardia were advised to identify and cull infected animals. Most producers responded favourably to this program, resulting in a significant reduction in infected herds by March 31, 1990. The cause of the Nocardia mastitis outbreak was not determined, but was closely associated with the use of a neomycin based dry cow treatment product.

Dairy Farm Inspection

Inspection and advisory services were provided to Alberta milk producers in the areas of milk quality, milk production, equipment standards, construction and upgrading of dairy facilities. Farming for the Future on-farm demonstration projects were conducted in several regions.

Dairy Farm Inspection staff performed 3,055 farm inspections in 1989-90, and an additional 1,746 farm consultations. One hundred and twenty-four bulk milk haulers were monitored for proper milk handling procedures. A total of 111 farm bulk tanks were calibrated.

As of December 31, 1989, there were 1,444 milk producers in the province, down from 1,464 a year earlier, which was consistent with recent trends in slowly declining producer numbers.

A total of 36,006 milk samples were analyzed for compliance with current milk quality standards. During the twelve month period ending March 31, 1990, the Milk Grade and Price Program recorded 84 standard plate count infractions; 33 freezing point infractions; 87 inhibitor infractions; and 129 somatic cell count infractions; totalling 333 infractions. Based on the standard plate count, 89.7% of all producers' milk samples tested less than 20,000 colonies/ml. There were 3.6% of samples that tested above the non-compliance level of 75,000 colonies/ml.

The Milk Grade and Price Program and advisory services provided to producers contributed to the excellent quality of milk produced in Alberta in 1989-90. The milk processors, through farm service programs, continued to support milk quality improvement on dairy farms.

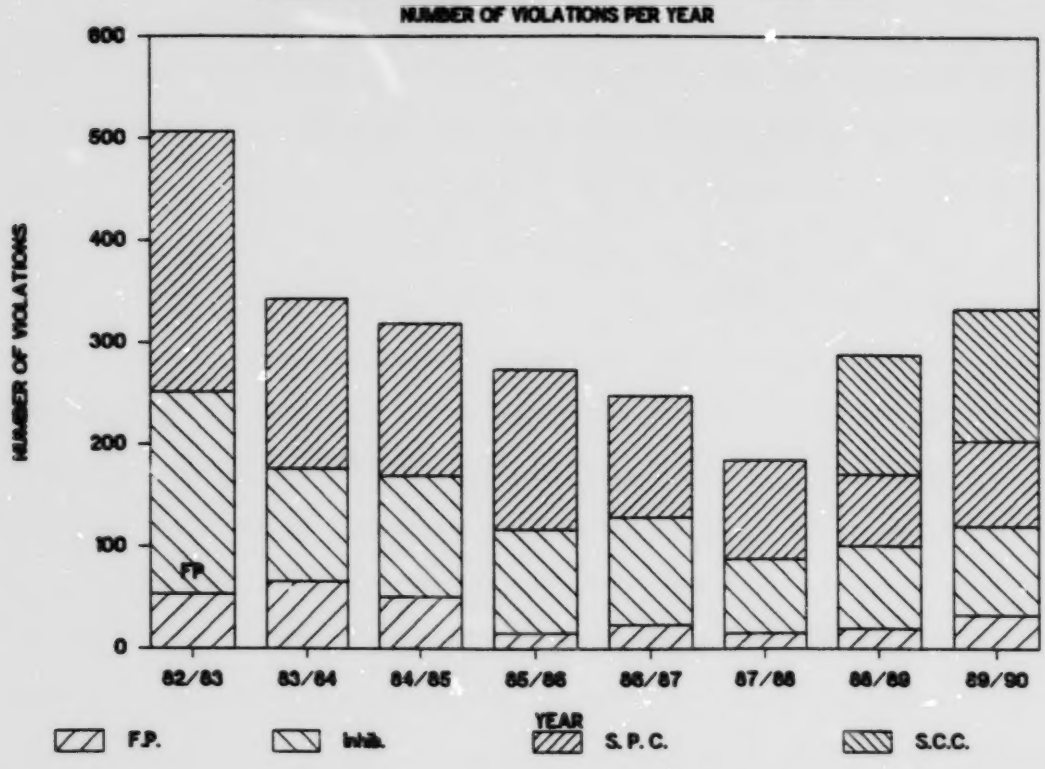
Funds collected from producers resulting from milk grade deductions were allocated to pay innocent producers for lost milk, to compensate milk transport operators when confirmation was required for suspicious inhibitor

positive loads and for the disposal of loads which tested positive. Funds remaining were distributed to milk producers on a monthly basis by the Alberta Dairy Control Board.

Bulk milk somatic cell counts continued to be monitored and advisory assistance was provided to reduce the incidence of mastitis in dairy herds. Bulk milk somatic cell counts averaged 279,862 cells per millilitre - a continued improvement compared to 1988-89. Less than 5% of the producer samples tested in Alberta exceeded the provincial standard of 750,000 cells/ml.

The Award of Excellence, sponsored by Alberta Agriculture, was introduced in 1986 to recognize dairy producers for excellence in quality milk production and maintenance of dairy premises. The Award of Excellence was presented to 216 milk producers at the Annual Alberta Dairymen's Association Convention in February 1990, as compared to 76 in the first year of the program. The response by the milk producers of Alberta has been excellent.

MILK GRADE AND PRICE PROGRAM



AWARD OF EXCELLENCE

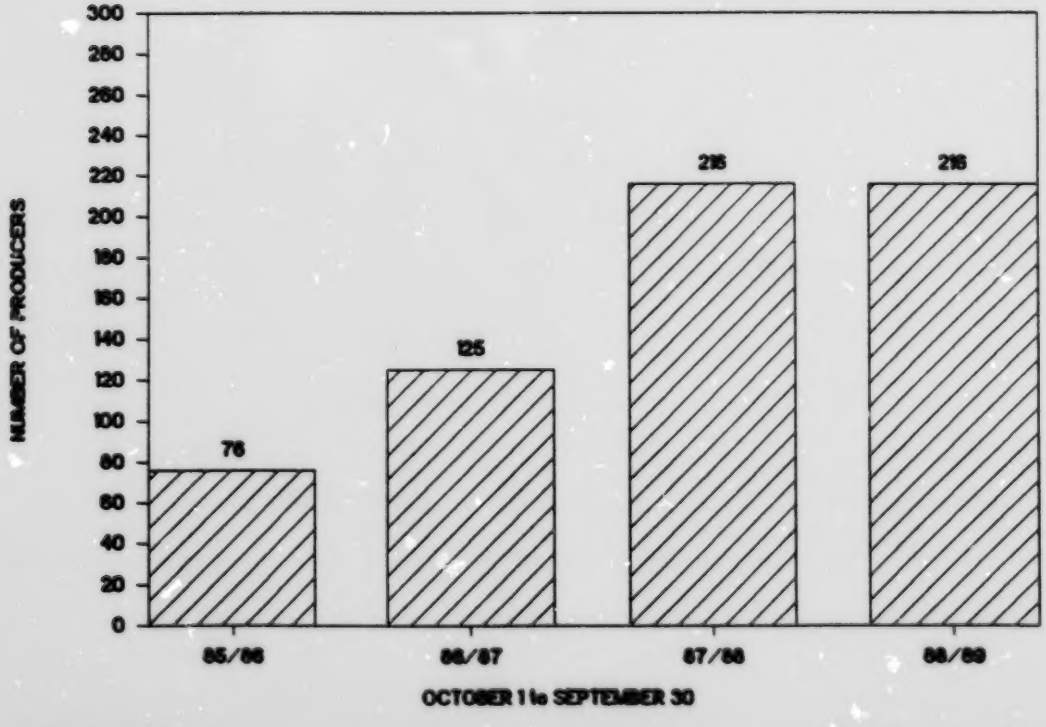


TABLE I The following table summarizes the activities of Dairy Farm Inspection. Comparisons are based upon April 1 to March 31 year basis.

	1988-89	1989-90
Number of Certified Milk Producers	1,464	1,444
Inspections of Dairy Farm Premises	3,281	3,055
Non-Inspection Dairy Farm Calls	1,832	1,746
TOTAL FARM CALLS	5,113	4,801
TOTAL RAW MILK SAMPLES ANALYZED	36,407	36,006
Quality of Milk Samples Analyzed		
Fluid Milk Samples Non-Compliance (75,000/mL S.P.C.)	3.3%	3.6%
Average Somatic Cell Counts - Fluid (Leucocytes)	283,828	279,862
Number of Infractions - SPC	70	84
- Inhibitors	81	87
- Cryoscopic Analysis	20	33
- Somatic Cells	117	129
TOTAL INFRACTIONS	288	333

Number of Infractions per Producer:

	1985-86	1986-87	1987-88	1988-89	1989-90
1 Infraction	179	153	133	184	167
2 Infraction	64	63	38	60	69
3 Infraction	19	19	10	27	47
4 Infraction	10	7	2	11	24
More than 4	2	6	2	6	26
	274	248	185	288	333

TABLE II Estimated Farm Value of Alberta Milk Production April 1989 - March 1990

The quantity, price, value and utilization of milk production during April 1989 to March 1990 are reported in the following table. To indicate changes from the previous year, 1988-89 figures have been included.

	Year	Milkfat Production '000 kg	Milk Equivalent '000	% of Total	Prices $	Value $'000
Milkfat for Creamery Butter	1989-90	456	10,365 L	1.56	4.64/kg	2,116
	1988-89	*579	*13,160 L	2.18	4.63/kg	2,681
Milk Purchased for the Manufacture[1] of Powder and Butter	1989-90		142,728 L	21.48	41.05/hL	58,590
	1988-89		117,744 L	19.55	40.81/hL	48,056
Milk for Cheesemaking	1989-90		144,156 L	21.69	41.09/hL	59,247
	1988-89		130,403 L	21.65	40.87/hL	53,294
Milk for Concentrating and Milk & Milkfat for Ice Cream[2] & Misc. Products	1989-90		64,641 L	9.73	42.92/hL	27,744
	1988-89		62,562 L	10.39	42.65/hL	26,683
Milk Purchased for Fluid Purposes	1989-90		271,487 L	43.34	52.82/hL	143,399
	1988-89		256,287 L	43.27	50.46/hL	129,322
Skimmilk Kept on Farms	1989-90		14,649 L	2.20	20.64/hL	3,024
	1988-89		17,821 L	2.96	22.19/hL	3,954
Estimated Federal Subsidy	1989-90					18,445
	1988-89					18,637
TOTAL	1989-90		648,026			312,565
	1988-89		597,977			282,627

* Revised 1988-89 figures and consequent additions.
1 Includes milk used for the making of cottage cheese.
2 Does not include milkfat from creamery butter used in the manufacture of ice cream.

TABLE III Milk Cow Numbers

Year	No. Cows June 1st	Year	No. Cows June 1st
1950	297,800	1979	135,000
1955*	285,000	1980	138,000
1960	279,000	1981	142,000**
1965	262,000	1982	158,000**
1970	198,000	1983	157,000**
1973	169,000	1984	157,000**
1974	169,000	1985	150,000**
1975	170,000	1986	152,000**
1976	152,000	1987	130,000**
1977	155,000	1988	128,000**
1978	148,000	1989	126,000**

* From 1955 forward, average butterfat test 3.5%; previous years were 3.6%.

** Census figure as of January 1 of that year.

Milking Management

The Dairy Software Evaluation Committee established criteria for evaluating computer software packages used in conjunction with dairy operations. Four software packages are currently under review.

Initial equipment has been purchased for the milking equipment evaluation unit in Lethbridge. Preliminary testing of the equipment took place in the fall of 1989. Proper testing procedures are now being developed.

Milking Management Specialists assisted in the revision and updating of the "Guidelines for the Installation and Operation of Milking and Milk Handling Equipment", which is used throughout Canada as a standard for industry.

A Milk Metering and Automatic Milk Sampling subcommittee of the Central Milk Testing Committee has been formed to provide guidance and direction to the Alberta dairy industry on the issues of milk measurement and milk sampling at the farm level.

Private industry, including veterinarians, have taken an interest in milking equipment evaluations for their producer clients. Milking Management Specialists were asked to provide training on some of the basic concepts of milking equipment function and performance. This will encourage industry, field staff and management consultants, to recognize some of the

potential problems and refer their customers to the Dairy Production Branch for corrective action.

A total of 114 equipment analyses were completed by the two milking management specialists. Forty new or updated milking systems were evaluated. Another 6 calls were completed for stray voltage problems. Milking equipment washing problems accounted for 10 farm calls and 9 farm calls were made for consultation on proposed milking system upgrades.

Milk Recording

The Dairy Production Branch provides Alberta Dairy Herd Improvement Services (A.D.H.I.S.) with an annual grant in support of D.H.I. services. The Branch was also responsible for computer costs.

Branch and regional staff provided extension services related to the use of milk recording records for increased production and profitability. Some new extension approaches were included in staff training, such as the use of lactation curves in dairy herd management.

A total of 631 herds and 40,327 cows received owner-sampler service from Alberta Dairy Herd Improvement Services (A.D.H.I.S.) at a cost of $6.10/cow/year.

As of December 31, 1989, there were a total of 906 herds on milk recording in Alberta. There were 275 herds and 19,521 cows on supervised. Fees for supervised service were $21/cow/year.

Monthly somatic cell counting continued to be very popular with 779 herds (86%) enrolled. The fee for service was $2.40/cow/year.

The average production per cow (on milk recording) for the year was 7,268 kg (milk), 255 kg (fat), 236 kg (protein). This translates to B.C.A.'s of 157 (milk), 148 (fat), 161 (protein).

The Alberta Dairy Extension Series attracted over 800 producers to two sets of meetings. Series #1 featured "Managing the High Producing Dry Cow" and "New D.H.I. Services". Series #2 highlighted the new developments in milking equipment and their part in improved milking management.

The Alberta Dairy Producer newsletter continued to be the most widely read dairy publication in the province. The mix of production, marketing, research and coming events provided the industry with timely and useful information. A new column was added on the milk pricing formula, in response to producer requests.

The Annual Western Caradian Dairy Seminar was held in Kananaskis. The program featured international trade, production vs profit, forage feeding and general production management. The high quality of speakers resulted in a significant increase in paid registrations.

The third annual Alberta Dairy Congress was held in Leduc and was again a success. The Congress attracted more than 1,200 people to the two day mix of trade show, educational programs and cattle show.

TABLE I HERD ENROLLMENT

	OFFICIAL		OWNER/SAMPLER	
BREED	NO. HERDS START OF YEAR	NO. HERDS END OF YEAR	NO. HERDS START OF YEAR	NO. HERDS END OF YEAR
Ayrshire	13	13	4	3
Brown Swiss	2	2	2	3
Guernsey	2	2		
Holstein	210	243	611	616
Jersey	16	14	9	8
Goats				1
TOTAL	263	274	626	631
AVERAGE HERD SIZE	71	71	64	63

TABLE II ANIMAL ENROLLMENT

	OFFICIAL				OWNER-SAMPLER			
	NO. OF ANIMALS ENROLLED				NO. OF ANIMALS ENROLLED			
BREED	NIP A REGISTERED	NIP U OR HIGHER	OR GRADE	TOTAL	NIP A REGISTERED	NIP U OR HIGHER	OR GRADE	TOTAL
AYRSHIRE	644	22	66	732	89	10	56	155
BROWN SWISS	74	2	8	84	38	25	104	167
GUERNSEY	44	3	1	48	2	2	19	23
HOLSTEIN	9,400	7,420	1,137	17,957	2,300	20,739	16,515	39,554
JERSEY	674	28	10	712	107	62	149	318
SHORTHORN					1	12	13	
GOATS					34	75	109	
TOTAL	10,836	7,475	1,222	19,533	2,570	20,839	16,930	40,339

TABLE III

SEMI-ANNUAL REGIONAL DHI PRODUCTION SUMMARY

(BASED ON DAIRY HERD IMPROVEMENT PRODUCTION RECORDS AS OF JANUARY 1, 1990)

REGION	# OF HERDS WITH RHA*	# OF COMPLETED RECORDS	305 DAY PRODUCTION (kg) MILK	FAT	PROTEIN	305 DAY BCA** MILK	FAT	PROTEIN	CALVING INTERVAL (months)	AVG. AGE OF HEIFERS AT FIRST CALVING (months)	AVG. # OF LACTATIONS PER COW
1. Lethbridge-Brooks	140	11,359	7461	258	242	161	151	165	12.8	26.8	2.5
2. Calgary	110	5,926	7419	266	245	162	154	168	13.3	28.3	2.7
3. Red Deer	279	14,857	7254	253	236	156	147	161	13.1	28.1	2.6
4. Vermilion	71	3,708	6862	245	223	149	142	152	13.1	27.8	2.6
5. Edmonton	258	13,206	7154	251	231	152	144	156	13.2	28.8	2.6
6. Peace River	16	1,552	7368	260	238	161	151	163	13.2	28.0	2.6
PROVINCE	874	50,608	7268	255	236	157	148	161	13.1	28.0	2.6

* RHA: Rolling Herd Average
** BCA: Breed Class Average

Regional Activities

Extension services for D.H.I. were initiated. These services included software development for record analysis, individual consultations and producer workshops.

Increased activity in the areas of on-farm demonstrations and D.H.I. extension highlighted regional dairy staff activities.

On-farm demonstrations included: peas for dairy rations; progesterone; fly-control; GnRh (Gonadotropin Releasing Hormone; and pasture use for dairy cattle.

D.H.I. extension was one of the featured topics at the Alberta Dairy Extension Series. Staff also increased activities in individual consultation and record analysis.

Ration clinics were widely used to assist producers in developing feeding programs.

Three hoof care clinics were held with excellent response from producers.

HORSE INDUSTRY
AND
FEEDER ASSOCIATIONS
BRANCH

INDUSTRY OVERVIEW

The demand for horses for sport and recreation continued to improve during 1989. Sales activity was strong and, although prices did not improve, markets have changed to where demand for young stock has diminished. Sale averages are reflecting this. Breeders are now required to have horses with a minimum of training to attract top prices.

	Select Breed Sales				
(Average Price $)	1985	1986	1987	1988	1989
Thoroughbred Yearling	6823	6254	5260	6774	6444
Standardbred Yearling	1845	3032	5861	5490	4062
Quarter Horse	1202	1261	2171	2452	1759

Interest in horse-related sport and recreation activities continued to improve.

In excess by 35,000 horses were processed by the two Alberta horsemeat plants which operated to near capacity. Although statistics on prices are not available, they rose over the year to a range of $0.45 - $0.55 per pound. Alsask Packers in Edmonton was purchased by a Japanese firm, but continues to operate as in the past.

Pregnant Mare Urine (PMU) operators had contracts increased by 15% over previous year's level. Producers average a $1,160 return per mare from sale of urine. No increase in contract amounts or new contracts are expected.

Education/advisory Services

The branch provides educational and advisory services to horse owners in all areas of the province. The branch has a diverse clientele that includes primary producers who raise and market horses and horse owners who purchase and use horses for sport and recreational activities. Although priority for programs is given to the agricultural segment of the industry, education services are provided to all horse owners. A large percentage of users have limited background with livestock and require information on the proper care and handling of horses, both for their own safety and that of the horses they have.

Extension programs include conducting or supporting approximately 40 short courses throughout the province, as well as providing speakers for programs conducted by colleges and organizations.

A special effort to provide seminars in rural communities not normally visited was continued. A series of one-evening seminars was given in eight locations in central Alberta communities.

The branch prepared technical articles and bulletins for distribution and staff was available as resource people for colleges, veterinarians, district agriculturists, private and public loans officers and other Alberta Agriculture staff relative to horses and the horse industry.

The highlight of extension courses was the Alberta Horse Breeders and Owners Conference that was conducted in cooperation with participating breed associations. A total of 275 people registered for the program, which was a 22% increase from the previous year. The program included 15 high quality speakers.

Horse Improvement Program

The Horse Improvement Program is an annual breeders show designed to identify and to recognize superior horses, breeders and trainers in Alberta. A committee consisting of representatives from participating breeds assists with the planning. The program continues to grow and to develop more prestige and significance to the industry.

In 1989, 47 classes were available for the 14 participating breeds resulting in 656 horses being evaluated. Results are computerized allowing for breeders to use the information to make selection and mating decisions. In some breeds, these results are the only performance and production records available. The publication and distribution of individual breed brochures identifying leading sires, dams and breeders continues to broaden the exposure for the program and usefulness of results.

Summary of Horse Improvement Program Entries

	1986	1987	1988	1989
American Saddlebred	23	19	21	21
Arabian	92	126	90	86
Appaloosa	75	69	73	65
Belgian	24	22	15	27
Clydesdale	27	25	22	17
Morgan	33	29	29	23
Paint	30	28	22	27
Partbred Arabian	18	21	24	23
Percheron	34	45	24	34
Pinto	30	31	30	31
Quarter Horse	83	128	88	90
Sport Horse	23	20	26	36
Walkers	20	15	21	17
Welsh Pony	19	19	22	17
Total Entries	531	597	504	514
Total Horses	711	797	669	656

The draft horse section of the program was held the day prior to the Stampede in Calgary, and the light horse section was held during the last two weekends in September at the Westerner Fairgrounds in Red Deer.

Stallion Fertility Evaluation

Horse breeders can, through a referral by a veterinarian, have a fertility evaluation of stallions conducted by the branch in cooperation with Olds College. In 1989, seven stallions were tested.

Market Development Assistance

The branch assists in administering Market Development grants of up to $25,000 for provincial horse breed associations.

During 1989-90, 16 breed associations were provided grants totalling $84,100. Projects supported include establishing breeders sales, printing brochures, incentives for successful Alberta-bred horses, provincial futurities, participation at trade fairs and general promotion and advertising.

In cooperation with Market Development and Agri-food, branch staff coordinated the participation of 17 Alberta breeds at Equi-fair held at Spruce Meadows during the "Masters" horse show. The project involved a large horse exhibit, seminars and demonstrations. This is the breed associations' most important marketing venture of the year.

The market for western horses from Alberta continued to increase throughout Europe as many riders desire horses that are different and easy to ride and handle. There is also an increase in the market for specialized, highly-trained horses for western events such as reining. The branch continues to advise breed associations and to assist in coordinating exports.

Medication Control

As a service to provincial organizations, the branch conducts drug testing at main horse shows. During 1989, 447 horses were tested during 38 days of testing, with no forbidden products being detected. The program continues to foster fair competitions and is appreciated by the horse public and associations.

Summary of Testing

	1985	1986	1987	1988	1989
No. of shows tested	21	21	17	21	23
No. of days tested	31	25	28	30	38
No. of horses tested	390	432	315	330	447
No. of blood samples	93	125	65	55	55
No. of urine samples	288	307	246	265	361
No. of positive tests	1	0	0	1	0

FEEDER ASSOCIATIONS

During the year, 57 feeder associations operated under the Feeder Associations Guarantee Act.

During the fiscal year, $159,131,123 worth of credit was used to purchase 272,750 cattle and 9,914 sheep. The amount outstanding as of August 31, 1989 was $73,568,641.

This compares to 1988 figures as follows: 261,697 cattle and 5,607 sheep purchased for a total cost of $163,380,158. The amount outstanding as of August 31, 1988 was $73,223,765.

The total Order-in-Council limit for all feeder associations as of August 31, 1989 was $155,750,000. This compares to a 1988 limit for all associations of $150,350,000.

Summary of Feeder Association Operations

1987-1989

Feeding Season	No. of Assoc.	Cattle	Sheep	Amount of Credit
1984-85	36	98,287	5,255	$ 43,699,556
1985-86	38	135,352	3,903	64,278,781
1986-87	48	188,453	5,223	105,511,243
1987-88	55	261,697	5,607	163,380,158
1988-89	57	272,750	9,914	159,131,123

1988/89 Feeder Associations Year End Report

Association	Cattle	Sheep	Total Credit
Acme	6,389		$ 3,728,697
Andrew	3,223		1,749,139
Barrhead	8,741		5,554,190
Bashaw	1,281		648,707
Battle River	17,773		10,989,083
Big Valley	4,152		2,223,287
Blindman	15,323		8,558,039
Bonnyville	2,678		1,590,273
Bowden	6,289		3,858,014
Brooks	8,571		4,826,120
Calgary Central	630		345,806
Carstairs	3,525		1,977,010
Cereal	1,538		751,872
Clearwater	612		385,694
Colinton	4,556		2,184,618
Delburne	2,718		1,336,521
East Olds	10,361		6,201,852
Flagstaff	8,177		5,550,932
Fort	5,663		3,295,731
Fort Macleod	2,310	1,587	1,225,651
Glenwood	2,305		1,211,696
Grande Prairie	6,866	542	3,976,240
Great West	1,436		838,370
Hardisty	6,123		3,616,038
Harmon Valley	1,540		867,205
Highway 9	6,405		3,701,634
Innisfail	719		405,135
Lakeland	3,069		1,854,992
Little Bow	10,468		5,989,777

Association	Cattle	Sheep	Total Credit
Mannville	2,121		$ 1,153,569
Marwayne	7,557		4,798,648
McLeod River	761		436,191
Moose Mountain	1,305		755,401
North Peace	6,381	70	3,466,324
Northern Alberta	-		-
Paddle River	4,979		2,829,024
Paintearth	2,755		1,589,027
Parkland-Stavely	4,829		2,867,698
Peace Hills	2,104		1,159,931
Pincher Creek	5,319		2,963,568
Ponoka	8,638		4,802,869
Prairie River	3,623		2,081,257
Provost	2,174		1,233,708
Raven	3,458		1,921,013
Red Deer	20,871	4,948	13,186,657
Ridge	4,642		2,543,012
Rockyford	3,495	49	2,026,105
South Eastern	1,531		730,219
St. Paul	2,787		1,501,891
Stettler	3,068		1,765,254
Stony Plain	1,668	180	959,970
Thorsby	5,657		3,052,261
Wainwright	2,330		1,315,046
Warwick	2,521		1,717,828
Westlock	13,415	2,587	7,994,376
Wheatland	1,320		836,954
Total 88-89	272,750	9,914	$ 159,131,124
Total 87-88	261,697	5,607	$ 163,380,158

In March, 1989, an Order-in-Council was approved which amended Schedule 1 of the Feeder Associations Guarantee Regulation. The change involved increasing loan limits for Paddle River, Prairie River and Thorsby Associations. In addition, Clearwater Association at Rocky Mountain House was established and a lender change was approved for Cereal Feeder Co-op Ltd.

On August 10, 1989, an Order-in-Council was approved which increased the loan limits for Acme, Grande Prairie and East Olds. In addition, Grande Prairie changed lending institution.

Continued emphasis was placed on monitoring association activities through farm/office inspections. In particular, increased attention was focused on purchase and/or sale of breeding animals which were association financed. A number of feeder members sold bred heifers and, as a result, were suspended from accessing feeder association financing for a period of one year.

PORK
INDUSTRY
BRANCH

The farm cash receipts from sales of hogs in Alberta in 1989 were estimated as 249.3 million dollars, up 0.6 million dollars from 1988. Total number of pigs sold for slaughter from Alberta increased by 3.6% from 1988, and the annual average price for 100 index hogs-dressed in Alberta declined 0.3% to $1.265/kg from $1.268 in 1988. As a percentage of total farm cash receipts, income from hogs increased from 5.6% in 1988 to 5.8% in 1989 in Alberta. Net exports of pork for Canada decreased by 9% and Canadian exports of live hogs rose by 4% in 1989 compared to 1988. For Canada, 227 million kilograms of pork were exported (after deducting imports of 11 million kg) and 679,074 live pigs were exported in 1989 (in addition, over 370,000 feeder hogs were exported from Canada). The net pork and live slaughter hogs exports amounted to about 24% of Canada's total production. Live hog exports (including feeder pigs) from Alberta in 1989 were estimated as 483,049 head or 20% of production and 46% of Canadian live hog exports. The strike at Fletcher's in Red Deer in 1988 and early 1989 was a factor in these high live export numbers. Most of Canada's pork exports (77%) and almost all of the live hogs exports were to the U.S. Because of health restrictions, no live slaughter hogs are imported into Canada. Canada's pork exports to Japan increased 20% from 1988, and went from 10.2% to 13.0% of total pork exports.

The number of active hog operations in Alberta in 1989 was 6,447. The number of hogs of Alberta origin marketed in 1989 were 2,371,076, an average of 368 per operation. On April 1, 1989, the Alberta breeding herd was reported to be 196,000 head and on April 1, 1990, it was reported to be

191,000, a drop of 2.5%. Total pigs on farms in Alberta on April 1, 1990, was reported as 1,735,000, 3.1% below the previous year.

Alberta's share of Canada's pig inventory on April 1, 1990, was 16.4% compared to 16.5% in 1989.

Average hog prices in 1989 in Alberta were $0.003 per kg below (essentially equal) that of the previous year and ranged from $1.029/kg (week ending March 31) to $1.473/kg (week ending July 21 in 1989 as weekly averages). The range (highest minus lowest price) in weekly averages was $0.444/kg in 1989 compared to $0.573/kg in 1988. The Alberta average price in 1989 was $0.115/kg below that of Ontario; in 1988, this spread was greater, at $0.1211/kg.

Weekly hog and sow sales in Alberta by the Alberta Pork Producers Development Corporation ranged from 42,000 in November to about 49,000 in February in 1989, averaging 44,502 weekly for the year, compared to 44,135 in 1988.

The number of hogs slaughtered in Alberta in 1989 were 1,541,153 in federally inspected plants and 64,397 in provincially inspected plants, a total of 1,605,550, up 2.7% from 1988, and equal to 67.7% of Alberta hogs sales and making up 10.8% of the Canadian total slaughter of 14,898,961 head. Average slaughter weight in Alberta was 79.0 kg in 1989 compared to 79.5 kg in 1988, and compared to the 1989 Canadian average of 79.0 kg. In 1989, 1.04% of pigs graded in Alberta were sows, compared to 1.18% in 1988

and compared to 1.57% for Canada for 1989. The average market index for Alberta hogs was 102.4 in 1989, compared to 102.6 in 1988, and 103.7 for Canada in 1989.

The National Tripartite Stabilization Program Scheme for Hogs provided protection from low prices to producers during the year. The following is a summary of the program by quarter:

Quarter	Producer Premiums	National Average Price	National Average Cash Costs	Support* Level	Payouts	
	$/hog	$/CKG	$/CKG	$/CKG	$/CKG	$/hog
Q1, 1989	2.60	121.84	128.78	169.81	47.97	38.24
Q2	3.10	129.93	127.68	175.89	45.96	36.27
Q3	3.50	143.93	124.26	186.44	42.50	33.14
Q4	3.85	141.62	119.72	162.29	20.77	16.45
Q1, 1990	3.30	136.58	113.60	148.67	12.09	9.67

* 1989 and 1990 Support level = national average cash costs plus 95% of the average difference between the national average price and national average cash costs in the same quarter for the previous 5 years (i.e. 1984 through 1988 for 1989 levels and 1985 through 1989 for 1990 levels).

At year's end, 5,286 Alberta producers were enrolled, and hog production enrolled was about 97% of Alberta's total. Payouts were made for all quarters of 1989 for a total of $74.7 million to Alberta producers. A further $6 million is estimated to be payable for the first quarter of 1990. The national fund for hogs was estimated at over $51 million at the beginning of the year and $211 million deficit at year's end. When Q1, 1990 payouts are made, the fund deficit will go to about $218 million.

The tripartite agreements for red meats were revised effective January 1, 1989 and subsequently all provinces except Newfoundland joined the hog plan. Changes to the hog plan included allowing top loading subsidies to limits based on percent of hog cash receipts by province and the province's share of national hog production, a change in margin guarantee to 95% (from 92% or less), coverage for all production (including exports) and exclusion of hogs grading 80 index, as well as other minor changes. Also, a clause was added to limit net benefits for all programs to a per cent of 'average aggregate value', which was 8% for Alberta for this fiscal year. For provinces with less than 5% of Canada's production, higher benefits were allowed.

The Pork Industry Branch provided information and programs for swine producers, agriculture processors and swine industry organizations for the purpose of maintaining and enhancing the long-term profitability of the industry. Information was provided relative to recommended production technology, marketing, financial management, record keeping and use of analysis and planning tools. Programmed assistance included a comprehensive computerized genetic improvement program with a sow productivity monitoring option, swine semen sales with training in the use of swine artificial insemination, a swine production home study course, a subscription handbook on pork production, two major provincial events and several regional and district seminars and courses.

Information and programs were co-ordinated and provided by branch staff, four regional swine specialists and other professional and technical staff. The pork production home study course, written by branch staff and specialists, which provided detailed self-instruction in the business of pork production aimed at beginning producers, sold over 1,000 copies in the past three years. The pork production handbook was distributed on a fee for service basis and distribution was to over 700 subscribers. This service provided more than 75 fact sheets on pork production topics to persons on the subscriber list, with new material mailed out as it was written or updated. A series of seminars on Swine Reproduction was organized by the branch with University of Alberta resource personnel as well as local specialists and veterinarians, in conjunction with the Alberta Swine Breeders Association. Attendance was over 600 in total for the four locations of Westlock, St. Vincent, Red Deer and Lethbridge.

The 15th Annual Alberta Pork Congress was held in June in Red Deer featuring a livestock show, educational seminars, and an industrial trade show; over 5,000 attended. The 21st Annual Banff Pork Seminar, held in January, attracted about 170 participants, and featured pork production technology experts from around the world. Branch staff and swine specialists together with university personnel helped plan and resource this event.

Semen sales from the Alberta Swine Artificial Insemination Center at Leduc totalled 7,496 matings compared to 9,511 for the previous fiscal year, a 21% decline (Figure 1 and Table I). This decline in sales reflects the

continued effect of the loss of two major B.C. customers, the development of artificial insemination centers in Manitoba as well as depressed hog prices. Some recovery of semen sales is being observed with the addition of new customers and an increase in semen uptake as market hog prices show signs of rising at year end. Table II details sales volume by province, and by sales per producer, while 82% of the 306 purchasers used 1 to 25 doses, 49% of sales was to 14 (5%) customers using 101 or more doses.

There were 28 boars on hand April 1, 1989, of which 22 were in service (see Table III). Nineteen boars were culled and 13 boars were added during the fiscal year. At year end, there were 22 boars on hand, of which 20 were in active service. An average of 27 doses of semen were sold per boar per month in service during the past year. Seven boars were removed from service because semen quality deteriorated to an unacceptable level for use in artificial insemination. Three boars were found to be carriers of the Porcine Stress Syndrome, and two were removed because their progeny did not have above average growth rate and leanness. The remaining boars were removed for other reasons such as low semen demand, feet and leg problems or failing health associated with aging.

Reproductive performance from artificial insemination matings to semen from the Alberta Swine A.I. Center averaged 78.7% farrowing rate and 10.0 live piglets born per litter over 1,571 breedings from which field reports were returned. The above results are fully steady with results observed a year earlier. Semen quality viewed from laboratory records revealed that 91% of the semen processed during the year retained motility of 50+% at seven days post collection.

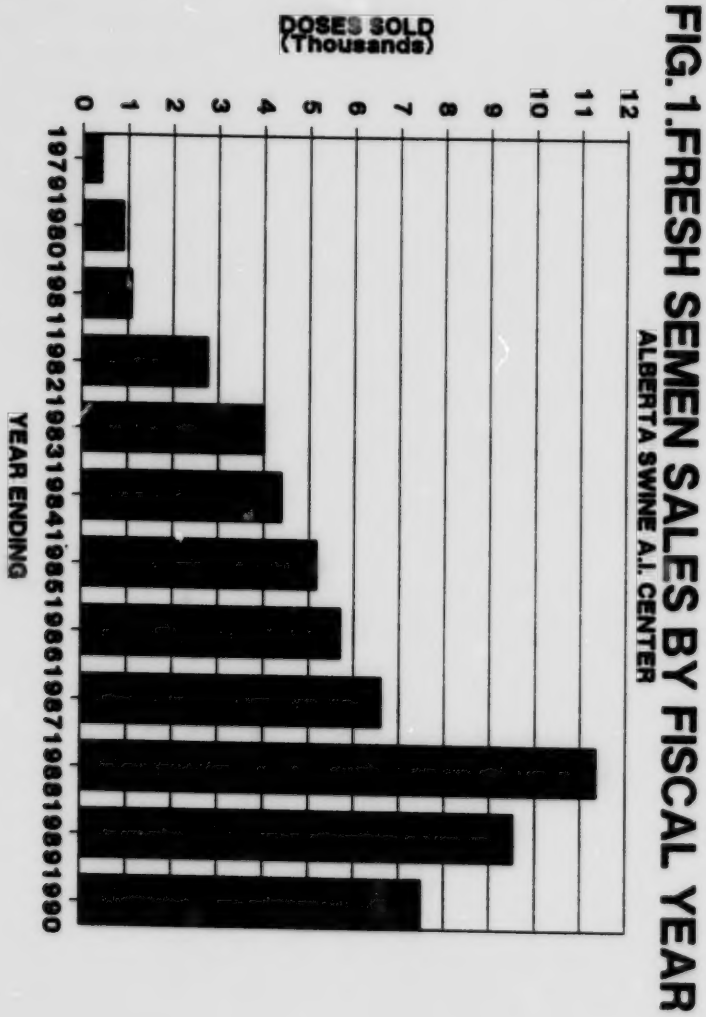


FIG. 1. FRESH SEMEN SALES BY FISCAL YEAR

Table I **FRESH SEMEN SALES AND PERFORMANCE REPORT BY BREED**
April 1, 1989 - March 31, 1990

Breed	Doses Sold	Boar Months	Doses/ Boar Month	# Farrow	Farrow Rate %	Piglets Born Alive	Piglets Born Dead	# Abnormal per 1000
Yorkshire	3,754	105	36	473	78	4,781	555	23
Landrace	2,011	85	24	288	75	2,956	269	41
Lacombe	147	14	11	6	100	58	4	35
Hampshire	566	35	16	85	82	767	75	10
Duroc	1,018	39	26	156	82	1,535	122	19
Totals	7,496	278	-	1,008	-	10,097	1,025	-
Averages	1,499	56	22	202	83	2,019	205	25
Wtd. Avg.	-	-	27	-	77.80	10.02	1.02	-

TABLE II FRESH SEMEN SALES DISTRIBUTION (April 1, 1989 to March 31, 1990)

USERS AND DOSES BY USE CATEGORY

	TOTAL PURCHASERS	# DOSES SOLD	1 - 25 USERS	1 - 25 DOSES	26 - 50 USERS	26 - 50 DOSES	51 - 100 USERS	51 - 100 DOSES	101 - 500 USERS	101 - 500 DOSES	500 + USERS	500 + DOSES
Alberta	198	4,581	162	1,216	14	505	14	961	7	1,345	1	554
B.C.	48	2,099	38	211	1	28	4	291	4	962	1	607
Sask.	33	333	29	181	3	95	1	57	0	0	0	0
Manitoba	12	138	10	66	2	72	0	0	0	0	0	0
Newfoundland	1	185	0	0	0	0	0	0	1	185	0	0
Ontario	9	49	9	49	0	0	0	0	0	0	0	0
P.E.I.	5	111	3	32	2	79	0	0	0	0	0	0
TOTAL	306	7,496	251	1,755	22	779	19	1,309	12	2,492	2	1,161
% of customers	100%		82%		7%		6%		4%		1%	
% of sales		100%		23%		10%		17%		33%		15%
Results for Previous Years												
88-89	332	9,511	270	1,741	28	984	16	1,158	15	2,841	3	2,787
87-88	347	11,344	264	1,802	34	1,216	25	1,690	22	3,803	2	2,833
86-87	294	6,609	236	1,551	30	1,095	17	1,215	11	2,748	0	0
85-86	293	5,706	234	1,668	35	1,204	15	1,135	9	1,663	0	0
84-85	290	6,164	227	1,664	35	1,166	23	1,235	5	1,069	0	0

Current Fresh Semen Price Schedule

1 - 50 doses	100% of $16.00	$16.00/dose*
51 - 100 doses	90% of $16.00	$14.40/dose
101 - 500 doses	80% of $16.00	$12.80/dose
500 + doses	70% of $16.00	$11.20/dose

* Freight is extra at cost

Table III 1989-1990 BOAR BATTERY SUMMARY

	Yorkshire	Landrace	Lacombe	Hampshire	Duroc	Total
On inventory April 1/89	11	8	2	3	4	28
In service April 1/89	8	6	2	2	4	22
Culled 1989 - 1990	9	5	1	1	3	19
Added 1989 - 1990	5	3	1	2	2	13
On inventory April 1/90	7	6	2	4	3	22
In service April 1/90	7	6	2	3	2	20
Culled April, 1990	0	0	0	0	0	0
Added April, 1990	3	0	0	0	1	4
Boar needs based on last 3 months sales/125	7 (817)	4 (537)	1 (35)	1 (120)	2 (208)	15

During the year, a new edition of the swine artificial insemination handbook was written, published and circulated to customers. The new edition is also available through Agdex. In addition, a quarterly news bulletin "Boar Fax" was initiated to provide customers with updated information regarding boars in service.

A feeding trial was carried out during the summer of 1989 to compare the effects of two levels of crude protein and lysine on appetite, growth, body condition and reproductive performance. At year end, results were being tabulated for study and the preparation of a report.

Several artificial insemination short courses were again conducted in British Columbia and Alberta this past year. Regional swine specialists and members of the Swine A.I. Center staff made numerous farm calls to demonstrate estrus detection, insemination technique and to discuss the use of artificial insemination in the breeding program.

At year's end, two new policies, one dealing with semen pricing and one dealing with boar acquisition, were being reviewed for implementation in the coming year. The proposed new pricing format would provide a means of selling generic semen (identified by breed only) to more adequately address the needs of producers who wish to produce market pigs from artificial insemination breedings. The new boar royalty agreement is intended to provide boar suppliers a greater share of the marketability of semen from truly superior boars being used for production of breeding stock replacements.

Work is underway with Dr. G. Foxcroft at the University of Alberta to develop a more reliable laboratory test for assessing the relative fertility of semen collected from boars.

The Swine Improvement Program assisted seedstock herds primarily to select leaner and faster growing breeding stock, with an objective to improve the product quality and producers' financial well being for the whole pork industry. To achieve this objective, 15,985 boars and gilts on 55 participating breeder farms were tested during the year by six technicians working with the Pork Industry Branch.

Additionally, 839 boars were tested at Agriculture Canada's boar test stations at Leduc and Lacombe. A summary of all the test results is given in Table IV. For comparison sake, data for 1988 is shown both at 90 and 100 kg because effective January 1, 1989, backfat and age data were reported adjusted to 100 kg. Five year trends for numbers tested, adjusted backfat and age are shown graphically in Figures 2, 3 and 4.

The Sow Productivity Recording Program, a computer system to monitor sow reproductive performance, was also offered on a voluntary basis to the performance testing herds and others. The results from this program are reported in Table V.

Significant events in the swine improvement program during 1989 are:

1. As of January 1, 1989, data for backfat and days were adjusted to 100 kg instead of 90. This was done at the request of the commercial industry. The desire of that industry is to see data which simulate the 100 kg market weight.

2. All six technicians started to enter data into portable computers on farms April 1, 1989. This meant an end to writing probe sheets. Estimated Breeding Values (EBV's) were then generated on the spot for breeders on the program. EBV's use a statistical technique called the BLUP (Best Linear Unbiased Prediction) system to separate the environmental from the genetic influences on pigs' performance traits. The system then estimates the genetic worth of each pig for backfat and growth rate.
3. Test station data was calculated on the old phenotypic index and the new EBV system until August. After that, the EBV system was used exclusively to assess and rank boars.
4. Fees for 'on-farm' testing instituted in 1988 took their toll as commercial herds really cut back in the number of pigs tested (3,420 tested in 1988 versus 1,781 tested in 1989). However, seedstock herds are testing at a strong pace with only a slight reduction in numbers (15,764 in 1988 versus 14,204 in 1989). Thus, the breeding stock production sector of the program is still strong.
5. The test station component of the program rebounded quickly after the Alberta Swine Breeders Association (ASBA) reopened the Lacombe test station in December of 1988. The 839 boars tested represent 87% utilization of test station pen space.

TABLE IV

ALBERTA SWINE IMPROVEMENT PROGRAM PERFORMANCE TESTING SUMMARY

1985 - 1989

	1985 90 kg	1986 90 kg	1987 90 kg	1988 90 kg	1988 100 kg	1989 100 kg
Boars Station Tested						
Number	794	638	652	574	574	839
Avg. backfat (mm)	14.5	14.4	14.1	13.6	14.9	14.2
Avg. daily gain (kg)	0.92	0.91	0.90	0.90	0.90	0.93
Avg. feed conversion	2.41	2.48	2.47	2.44	2.44	2.44
Avg. age (days)	145	144	145	143	152	151
Boars Home Tested						
Number	5,641	5,461	6,216	6,269	6,269	5,893
Avg. backfat (mm)	14.3	13.8	13.3	13.0	14.2	13.9
Avg. age (days)	157	155	154	153	163	165
TOTAL BOARS TESTED	6,435	6,035	6,868	6,841	6,843	6,732
Gilts Home Tested						
Number	12,474	11,651	12,931	12,915	12,915	10,092
Avg. backfat (mm)	15.6	15.2	14.4	14.0	15.4	15.3
Avg. age (days)	169	167	163	161	172	174
TOTAL PIGS TESTED	18,909	17,750	19,799	19,758	19,758	16,824

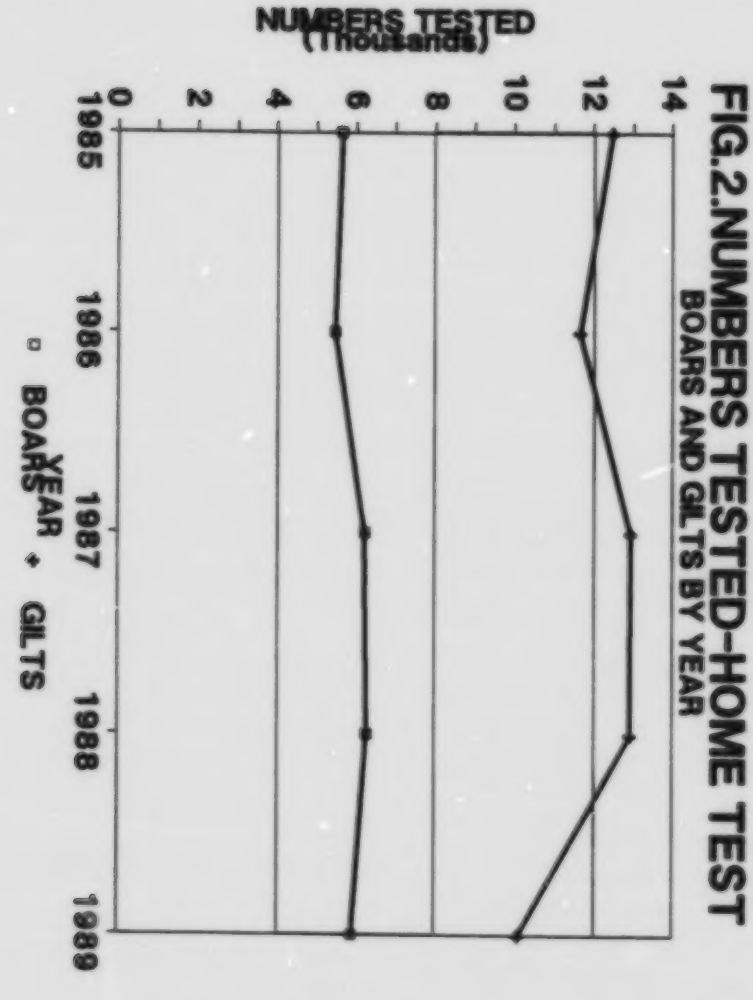


FIG.2.NUMBERS TESTED-HOME TEST
BOARS AND GILTS BY YEAR
NUMBERS TESTED
(Thousands)
0
2
4
6
8
10
12
14
1985
1986
1987
1988
1989
YEAR
BOARS
GILTS

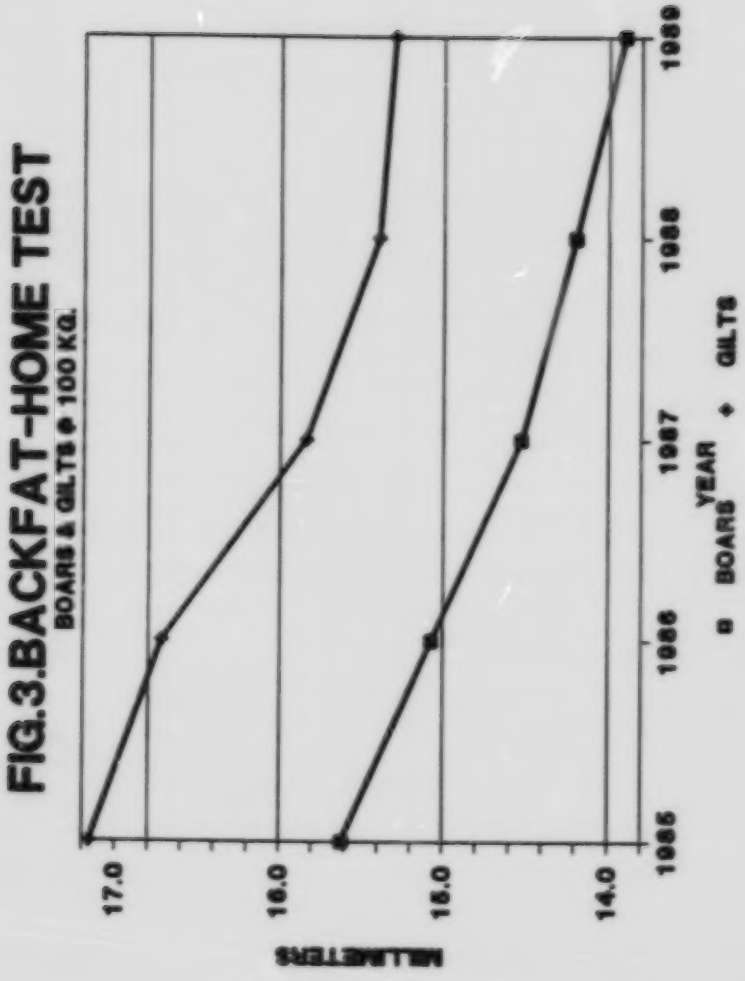


FIG.3.BACKFAT-HOME TEST
BOARS ▲ GILTS ● 100 KG.
MILLIMETERS
17.0
16.0
15.0
14.0
1985
1986
1987
1988
1989
YEAR
BOARS
GILTS

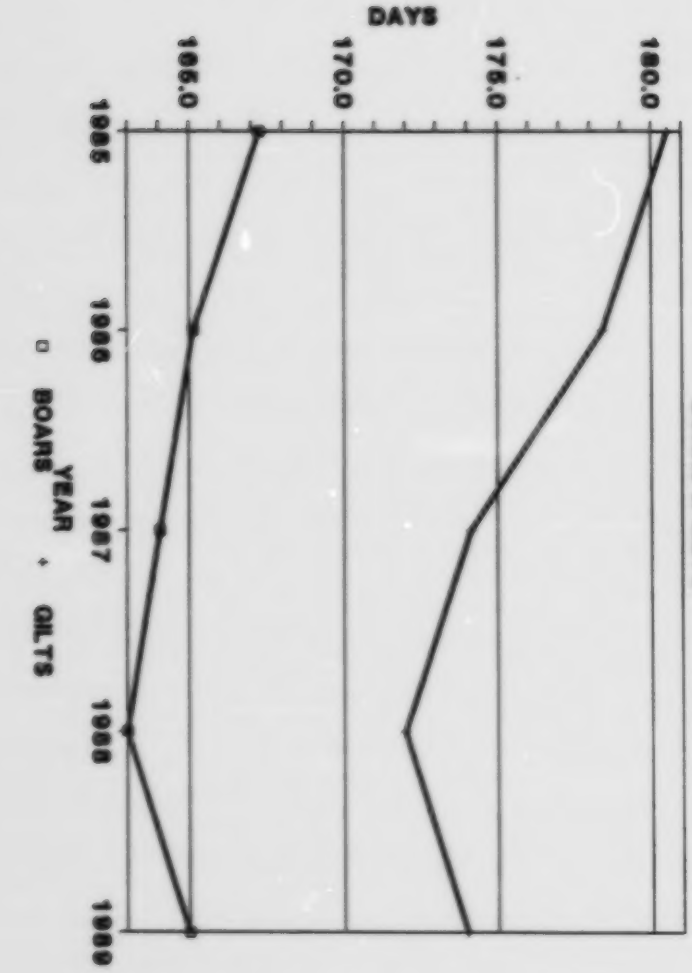


FIG.4.AGE 100 KG.-HOME TEST
BOARS & GILTS
DAYS
180.0
175.0
170.0
165.0
1985
1986
1987
1988
1989
YEAR
BOARS
GILTS

TABLE V

SOW PRODUCTIVITY AND MANAGEMENT PROGRAM

1989 RESULTS

28 Active Herds

	YORKS	LAND	LAC	HAMP	DUROC	REDS	COMM	TOTAL
Litters Weaned	1,122	558	131	201	40	4	1,749	3,805
Pigs Weaned	9,607	4,869	969	1,493	304	31	15,314	32,587
Services/Farrowing	1.1	1.0	1.1	1.2	1.1	1.0	1.1	1.1
Farrowing Interval (days)	164	160	173	161	167	147	160	162
Weaning to Conception (days)	18.6	14.8	30.4	17.9	21.5	3.5	16.5	17.4
Total Born/Litter	10.8	10.8	10.1	9.8	10.6	8.3	10.9	10.8
Born Live/Litter	9.5	9.6	8.9	8.5	9.4	7.3	9.7	9.5
PreWean Mortality %	12.0	10.9	19.5	17.5	17.7	6.1	10.7	11.8
Pigs Weaned/Litter	8.6	8.7	7.4	7.4	7.6	6.1	8.8	8.6
Litters/Sow/Year	2.2	2.3	2.1	2.3	2.2	2.5	2.3	2.3
Pigs Weaned Per Sow Per Year	18.9	20.0	15.5	17.0	16.7	19.5	20.2	19.8
Kg of Pigs at 21 Days Per Sow Per Year	107.6	129.5	96.3	97.5	92.8	102.8	118.9	116.8

REDS = Red Wattle

The herds which are on the Sow Productivity Program are not necessarily the same ones that are on the performance testing program.

Alan George, Regional Swine Specialist, Lethbridge, reported that a major area of work during the past year has been one to one consultation in office and farm calls. These constituted 83 office appointments, 74 farm calls and 251 phone discussion with clients. The subject areas have been extensive. Basic management improvement, problem solving and decision making in the management area have all been involved. The HOGCAAF computer model has again been used extensively over the year to enable clients to analyse their operations and to predict the results of changes in operations or management routines. These consultations usually involve two or three hours with the client and may also include one or two on-site farm sessions. They enable a client to make viable decisions with a realistic "bottom line" as the major factor of consideration. These are considered to be a very valuable part of extension work.

Regional and local meeting and seminars provide opportunity for extension education on a broader scale and can often be as effective as one to one discussion if the group interaction promotes individual thinking. The specialist resourced seminars and informal meetings at Brooks (2), Oyen (3), Foremost (1) and Pincher Creek (2), on a wide range of subjects. He gave a major paper on management alternatives at the Banff Swine Seminar.

The Oyen discussion group is still strong and healthy. The Medicine Hat group has not been able to sustain regular meetings. A group in the Picture Butte areas is being promoted. The Southern Alberta Hog Producers Association have had some very good information meetings.

The Lethbridge Community College livestock facility was used for one artificial insemination course which was well attended.

In the area of animal health, the specialist has responded with many of the local veterinarians on problems in the swine area. He has worked on several case studies with two of the local vets. He also works closely with department veterinarians from the regional diagnostic laboratory as a support person on field problems.

Communication in the extension area has been largely through personal contact and notes and comments to district agriculturists. A regular column is produced in the Western Hog Journal, which is circulated to all hog producers in Western Canada. This column discusses case studies with a realistic "bottom line" as the major factor of consideration. The first newsletter exclusively for Hutterite Colonies was sent out by the specialist. This is a new approach to the Colonies, who in this region produce over 50% of all the hogs, and several comments indicate that it is being well received.

The specialist continued to fully support the Alberta Pork Congress in Red Deer, and has been involved with the education program as joint chairman of the Education Committee. Last year, he also organized a major presentation on a Team Approach to Fine Tuning in a problem barn, and also organized a live demonstration on Saving the Underprivileged Pig. Both of these were very well received.

The specialist has responded with nearly all the major lending institutions in advising clients and loans officers on the feasibility of loan proposals. He resourced the Swine Section of the Ag Lenders Workshop organized by the Farm Business Management Branch, and wrote the pig section of their manual.

The specialist has been a member of the regional on-farm demonstration committee and has actively supported the activities of the On-Farm Demonstration Program. He has one demonstration starting this spring.

He is also an active member of the regional team and has been a member of the intensive livestock planning group.

The Regional Swine Specialist at Red Deer, Marvin Salomons, conducted approximately 60 farm calls. 200 office interviews and numerous telephone contacts from producers on all aspects of swine production, management, feeding, housing, breeding, etc. Many contacts were made in conjunction with other specialists, district agriculturists, and agribusiness people.

He assisted Agricultural Development Corporation and other farm lending institutions with approximately 30 client loan evaluations, farms calls and office visits.

The specialist organized or assisted in the organization of approximately 15 extension meetings to local swine producers (approximately 575 attended). Topics included problem solving with records, baby pig management, ration formulation, feeding peas, use of lysine, breeding management, alternate feeds (hulless barley) pre-weaning management, unit management, etc.

Assistance in the planning and promotion of the June 1989 Alberta Pork Congress held in Red Deer (approximately 3,000 attended) was provided by the specialist. He acted as the Chairman of the Education Committee and Director (ex-office) for the Pork Congress, organized and resourced the education program with approximately 600 producers attending the program over three days. He spoke at a session re: Farm Problem Analysis and Fine Tuning. With the assistance of the Regional Swine Specialist, Lethbridge, he organized and resourced a pre-Congress seminar and BBQ for approximately 50 producers in Lethbridge.

The specialist assisted in the planning and promotion of the 1990 Banff Pork Seminar (approximately 160 attended). He acted as Chairman of the planning committee.

He wrote **"Research Reviews"** column for the Western Hog Journal. He wrote nine reviews on various subjects of interest for the Journal (approximate circulation 22,000 in Canada and abroad).

With the assistance of the Regional Livestock Specialist and Regional Agricultural Engineer in Region III, the Regional Livestock Specialist, Regional Swine Specialist and Regional Agricultural Engineer in Region V, and the Provincial Food and Nutrition Specialist, the specialist wrote and edited a series of eight monthly newsletters (from October 1989 to May 1990). The newsletter entitled **Beef 'n' Bacon** was mailed either directly or through district agriculturist's offices to approximately 4,000 swine and beef producers, veterinarians, feed industry, agriculture agencies, etc. in Regions III and V, and selected readers in the province. Beef 'n' Bacon is designed as a major livestock winter program providing extension information on livestock production and management, plus engineering and red meat information to producers involved in pork and beef production. He wrote eight articles for the newsletter. Responses to the newsletter remains excellent with distribution in its fifth year of mailing to Region V and third year to Region III. Many follow-up calls have been made as a result of articles appearing in Beef 'n' Bacon.

With the Regional Swine Specialist (Region V) and Regional Agricultural Engineer (Region III), the swine specialist wrote a newsletter entitled "Pig Pointers" for swine producers in Region VI. This newsletter is mailed to approximately 200 swine producers, veterinarians, feed manufacturers, district agriculturists, etc. in the Region. This newsletter provides extension material on swine production, engineering and management topics (articles copied from Beef 'n' Bacon) to producers in Region VI.

With the Regional Agricultural Engineer (Region III), he assisted in resourcing the University of Alberta Swine Production Class (Animal Science 470) in-depth analysis of two local farms from September to December, 1989.

He completed two on-farm demonstrations re: Use of Canola Oil to Control Dust in Pig Barns (Ponoka area). Presently involved in two demonstrations re: Use of Condor Barley in Pig Rations (Lacombe and Calgary areas).

He assisted with swine artificial insemination course at Olds for approximately 20 producers.

The specialist assisted Health Management Branch with a two day "Swine Workshop for Veterinarians" (approximately 20 attended).

With assistance of the Health Management Branch, he organized a seminar in Red Deer for 60 producers on "Problem Solving with Computerized Records (April, 1989).

With the Regional Home Economist, he organized a Food Safety In-service in Wetaskiwin for Region III staff.

He participated as a member (Region III representative) for the Technical Advisory Committee to review and recommend computer hardware and training needs for the Sector. Task completed.

With the Pork Industry Branch, Regional Swine Specialists and Alberta Swine Breeders Association, the specialist organized and resourced a series of regional seminars in Alberta (approximately 150 producers attended in Red Deer) and spoke on "Baby Pig Management".

The swine specialist maintained contact and liaison with various swine industry groups and associations, including the Alberta Pork Producers Development Corporation, the Alberta Swine Breeders Association, the Western Hog Growers Association and the Alberta Pork Congress.

Ron Bazylo, Regional Swine Specialist in Vermilion reported that many farrow to wean operators ceased operations due to low prices making it difficult for finisher operators to find a good supply of pigs. Pig numbers in the region have likely dropped by 5% over the past year.

Weaner prices dropped dramatically in the spring of 1989 and were selling for as low as $10 at auction marts. This caused some finisher operators to use this as a source of their stock. Depopulation on some operations occurred as a result of introducing disease into their premises. By the spring of 1990, weaner pigs weighing approximately 40 pounds were selling for as high as $57.00. This reflects the demand for weaners as the number of farrow to wean operators declined in 1989.

Hearings over the siting of livestock operations were held in St. Paul and many producers attended this meeting. Also, many producers in our region were concerned over the possible closing of Gainers due to increased shipping costs.

From April 1, 1989 to March 31, 1990, a total of 51 farm calls were carried out and 947 office interviews (clients visiting or phoning the office) were completed by the specialist. District seminars or courses were held in Wainwright, Ryley, Bonnyville, St. Vincent (2), Tofield, Vegreville, Elk Point, Plamondon and Lamont. Attendance was above the previous years in most locations. A presentation was given to the Pig Discussion Group this past year. Again, an artificial insemination course was given at the Lakeland College in which the specialist participated. A regional seminar was held at St. Vincent this year with good attendance. A lecture was also given to students at the Lakeland College.

An in-service was carried out for veterinarians of the northeast and northwest regions. The turnout was good and it was well received by the participants.

One on-farm demonstration has been started comparing field peas to soybean meal in grower and finisher diets.

The specialist attended the Alberta Pork Seminar and Pork Congress and assisted at the Pork Industry booth at the Congress. Throughout the year, he attended all Pork Industry Branch meetings. The specialist was the secretary of the Swine Committee to the Animal Industry Advisory Committee this past year.

During the past year, the specialist evaluated eleven loan proposals and carried out eight cash flows for new operations or ones intending to expand.

He wrote a chapter entitled **"Feeding Rye Grain to Pigs"** to be included in a book which is to be printed later this upcoming year.

He held ration formulation days for producers in Lamont, Andrew and Smoky Lake. All were a success.

The specialist also wrote an article for the Western Hog Journal and had radio broadcasts on CFCW.

The Outdoor Housing CRD pamphlet was updated this past year. The Timely Marketing of Finished Hogs factsheet was revised. The current Green Certificate Exam was reviewed and edited.

Throughout this past year, several artificial insemination demonstrations have been carried out. This is proving to be successful as most producers continue to use artificial insemination once they see the proper technique and benefits available through the use of artificial insemination.

The specialist had many inquiries on rations, buildings, management, breeding, etc. He met with feed suppliers and other industry personnel throughout the year. He kept in close contact with veterinarians in the region.

Bert Dening, Regional Swine Specialist in Barrhead/Peace Regions reported that 1989 saw very little barn construction in Region V. The spring of 1990 is seeing a real interest in construction with some large units being built.

Feeder hogs were in real short supply in late 1989 and continue to be in short supply. Feeder hog prices are currently very high at local auction marts which reflects a lot of current optimism in the hog industry.

The year 1989-90 saw a decrease in swine seminars in the area served, but a large increase in one to one producer contact. The specialist has 146 farm calls, 486 telephone calls, 87 office interviews, 424 letters sent out, and the specialist spoke at nine producer seminars.

A major swine seminar in Westlock was attended by 110 producers with a lot of good feedback. A similar seminar in Region VI was cancelled because of lack of pre-registration.

The specialist wrote articles for eight **"Beef 'n' Bacon"** publications and sent out 500 Pig Pointers to producers in Region VI.

Numerous seminars, branch meetings and other activities were carried out in 1989-90 by the specialist.

Many producers in the region are still dissatisfied with the Alberta Pork Producers Development Corporation and the whole issue of Fletcher's ownership.

Lower feed prices and the trend toward higher hog prices in 1990 has created optimism in the swine industry.

Uncertainty in the packing industry has created concern about the future of Alberta's hog industry.

There are still many producers who do not understand how the tripartite stabilization program for hogs works.

Industry developments and trends in the past year are important to note as the context in which Branch activities occurred this past year. Labor problems at Fletcher's caused a shutdown which continued into March, 1989, and caused difficulties in scheduling marketings, as well as effectively depressing Alberta returns due to the number of hogs that needed to be transported out of province for slaughter. Producer dissatisfaction with control of Fletcher's ownership increased, and an organization was formed -- PORCOFFF (Producers Organization - to Regain Control of Fletcher's Fine Foods) with an objective of gaining producer control and getting the marketing development corporation to divest its ownership of Fletcher's. In addition to this, the Alberta government took control of the operation of Gainers Inc. and several of its companies when loan payments were not made,

due to the loan guarantee advanced to this company by the Alberta government. This situation also has caused concern to the marketing corporation and some producers.

The future of Gainers and Fletchers remained somewhat uncertain as the year ended. The Alberta Pork Producers Development Corporation's annual financial statement indicated an operating loss of over $4.5 million for Fletcher's for the 1989 fiscal year (January to December). The president of Fletcher's, Gary MacMillan, was replaced in March, 1990, by Fred Knoedler, subsequent to this news.

Innovations in feeding have been adopted in the past year. Computer controlled electronic sow feeders that monitor and control feed consumption of individual sows have been put into use on some farms in the dry sow area, with varying degrees of success. Others are adopting liquid feeding systems for growing pigs, or new systems that add water to feed in the pen at the feeder. A third innovation in feeding has been a new design of feeder where one pig can eat at a time, but which allows the pig to protect itself from harassment, thereby improving feed intake.

As has occurred in previous years, the large operations have become larger. Data from tripartite information for 1989 indicate average sales of 540 pigs per producer, with over 80% of hogs sold from operations selling more than 500 annually and these sales came from just over 500 operations.

Alternate feed usage has been of interest to producers, particularly field peas and hulless barley for swine rations. Pig welfare issues are of increased concern to producers, as more public concern has become evident. Specific group actions have not yet been organized.

The pork and live hog countervail duties levied by the U.S. are a concern for the viability of the industry since such a large proportion of Canadian production is exported, and since the pork duty could yet take the form of a retroactive levy to be paid by the packing industry. The countervailing duty on fresh, chilled and frozen pork set at 3.6 cents a pound introduced a lot of uncertainty into the pork packing industry. Final rulings on appeals to the "subsidy" ruling by the U.S. Dept. of Commerce, and the "threat of material injury" ruling of the U.S. International Trade Commission are expected in August, 1990. Also a GATT (General Agreement on Tariffs and Trade) ruling on the U.S. application of its trade act is awaited.

Subsequent to the pork countervail news, Ontario pork prices in December fell to below Alberta prices also due to moves to rationalize the Ontario industry, and due to declines in pig production there. Hog prices in the U.S. and in Canada rose rapidly in early 1990, and helped end the fiscal year with a note of optimism.

POULTRY
BRANCH

GENERAL CONDITIONS

Nineteen eighty-nine was a relatively stable year for the poultry industry. The egg broiler breeder and turkey sectors continued to operate within a national agency.

The chicken board continued to operate under the National Chicken Marketing Agency (C.C.M.A.) guidelines, but did not have voting status as they were not official members of the agency. Official membership in C.C.M.A. is actively being pursued by Alberta producers, and it is anticipated that Alberta will have official membership sometime in 1990.

Producer margins in all segments returned to historic levels. Commercial egg and broiler margins ended 1989 at/or slightly above previous highs. With the help of lower feed prices, turkey and hatching egg margins ended the year slightly above historic levels. Commercial egg, broiler and turkey producer prices are in line with other producers in Canada. Ontario hatching egg producers have a cost of production formula that gives them a 10% price advantage over Alberta.

Placement levels remained at 88% for commercial eggs and 85% for broiler breeders. Turkey producers were at 104% quota and the chicken producers averaged just over 110% for the year.

The move to make quotas salable for the various poultry commodities progressed somewhat during the year. The broiler breeder board are the only

board to have approved the sale and transfer of quota without property at this time. It is expected that a new transfer policy for egg quota will be enacted during 1990. As quotas become readily salable without property, there will be some realignment within the industry.

1. Broiler Breeders

Setting of hatching eggs in 1989 remained at 49.5 million eggs. During the year, 96% of the eggs set for broiler production were produced in Alberta. Alberta brought in 1,947,000 eggs and shipped 405,000 commercial chicks outside the province. Three hundred and twenty six thousand female breeder chicks were imported from the U.S.A., a decrease of 3%. Average hatchability was 74.84.

2. Eggs

The 1989 laying flock consisted of 1,475,900 regulated and 380,000 unregulated layers for a total flock of 1,855,900 layers.

The production of eggs from Alberta during this period was 38,124,000 dozen, the same as last year. The rate of lay was 21.5 dozen for hens in regulated, and 15.3 dozen for hens in unregulated flocks. The net movement of eggs into the province showed an decrease of 35.8% for a total of 8,099,775 dozen or 155,765 dozen per week to accommodate the market demand for Alberta. The opening of a new retail food chain in the Calgary area in 1989 changed the marketing patterns of eggs and poultry products, and it

will take some time before the Alberta trade adjusts. The Canadian Egg Marketing Agency Buy Back Program saw a decrease of 31% from Alberta, 2,901,000 dozen in 1989 compared to 4,203,000 dozen in 1988. The Alberta per capita consumption was 20.8 dozen.

The commercial egg marketings through registered egg stations were 32.7 million dozen in 1989, compared to 35.0 million dozen in 1988, a 6.8% decrease. Producer levy is 16 cents per dozen.

3. Broilers

Alberta's chicken production in 1989 was 41.3 million Kg, 2.0 percent below production a year ago.

Broiler production at 40.0 million Kg was up 0.1 percent from 1988. Roaster production was 2.2 million Kg, down 24 percent, while cornish was down 15.0 percent, at 2.0 million Kg.

Broiler production was under pressure early in the year, but optimism for 1990 is positive on both price and placements.

The Chicken Board implemented the first stage of a modern cost effective quota system whereby roaster and broiler quota are combined, thus allowing growers to reduce production costs by growing light and heavy birds in the same barns.

A change to fresh product for most retail stores has affected the method of handling chicken and the need for storage. This has placed more pressure on the processing industry to have product available on a regular basis.

The Alberta Chicken Producers Marketing Board have not yet joined the National Chicken Agency, however, the Board is actively pursuing full membership in the Agency. The Board did sign their sixth agreement with the Agency, which limited Alberta's marketing to 44,206,960 Kg, which is 8.2% of the total Canadian allocation in 1990.

4. Turkeys

Heavy breed marketing remained at 8.7 million Kg. Light breed production decreased to 1.5 million Kg, a decrease of 11.1 percent from 1988.

Domestic production of turkeys in Canada showed an increase of 2.0% over 1988 levels.

Alberta's total turkey marketing allocation from the Canadian Turkey Marketing Agency for 1989 was 9,964,000 kilograms. Actual marketings were 9,456,000 million Kg.

Alberta's per capita consumption of turkey meat was 4.34 Kg; 3.60 Kg for heavies and 0.74 Kg for lights.

BRANCH PROGRAMS

1. Administration

The Administration Section develops and administers regulations, policies and programs relative to the industry under the Livestock and Livestock Products Act.

The Poultry Branch provided a number of programs and services designed to increase the long-term profitability of the poultry industry in Alberta.

2. Research

The Poultry Branch continued to assist in the functioning of the University of Alberta research institute by serving on the Poultry Research Committee. As part of the five-year agreement, the Branch provided a grant of $185,000 for applied research to be conducted at the University of Alberta poultry unit. Branch staff were also involved in a number of on-farm demonstrations and research projects related to poultry production conducted under the auspices of the Farming for the Future program.

3. Poultry Health

The purpose of this program is to prevent and to control poultry diseases, to safeguard public health.

All breeder flocks and hatcheries were monitored with emphasis on salmonella detection and reduction in cooperation with the Animal Health Division. This program is designed to increase agriculture production by reducing the number and kinds of disease producing organisms in poultry and their environment with emphasis on salmonella, because of the public health significance of this organism. The resultant increase in production has led to improved income for poultry producers of this province.

The poultry health program is broken down into a number of areas. These are:

(i) Hatchery Sanitation Program (Fluff Sampling)

Chick fluff samples analyzed were 51 from the Lethbridge area; 59 from the Calgary area; and 338 from the Edmonton area. The number of chicken flocks represented by fluff samples totalled 582, indicating a monitoring sampling of approximately 4.5 times for each approved hatchery supply flock. The turkey flock sampling totalled 20, indicating approximately 3.3 fluff samples per flock approved. Fluff sampling of hatcheries was considered excellent.

The table on the following page gives a complete summary of this program and lists the salmonella isolations which were found in the samples:

Total Number of Tests	Salmonella Isolated
Chicks 348	S. thompson S. heidelberg
Turkeys 15	
TOTAL 363	

% S. isolations (chickens)	1985	1986	1987	1988	1989
	0.82(6)	0.98(6)	1.04(6)	1.67(8)	0.57(2)
% S. isolations (turkeys)	1985	1986	1987	1988	1989
	2.50(1)	0.00(0)	8.89(4)	6.67(1)	0.00(0)

(ii) Chicken Health Program

The Poultry Branch staff worked with all hatching egg shippers with special emphasis on individuals who had salmonella isolations. The following table gives the laboratory submissions for the year. The table shows the laboratory workloads for this program of the Animal Health Division and the activities of the Poultry Branch.

	Flock Placements			Type of Submissions			
Territory	Broiler	Egg Type	Total	Rep	Lay	1st Hatch	Total
1 (Leth. Lab)	20	-	20	16	20	21	57
2 (Calg. Lab)	29	8	37	30	31	33	94
3 (Edm. Lab)	28	-	28	27	28	22	77
4 (Edm. Lab)	27	22	49	34	50	19	103
TOTAL	104	30	134	107	129	95	331

By studying the previous table, health related activities of the Poultry Branch can be noted. Required calls within the Poultry Health Program by regional poultry specialists were very satisfactory.

It is encouraging to note that only one submissions of salmonella was isolated from culls 1st hatch. In 1986, the branch implemented a new egg sanitation program with the aid of Rodac plate monitoring at the farm level. The use of paraformaldehyde flakes in the nest boxes, and the spraying of eggs with disinfectants immediately after lay are the main emphasis employed by regional poultry specialists with some of their hatching egg producers. The new program, with constant vigilance is resulting in reducing the number of salmonallae in commercial chicks.

Percent Chicken Salmonella Isolations

	Sampling			
	Replacement	Laying	1st Hatch	Total
No. of submissions	107	129	95	329
No. of S. positives (+)	3	34	1	38
% positive - 1989	2.8	26.5	1.0	11.4
1988	6.7	21.0	1.7	9.8
1987	3.3	23.6	3.6	10.8
1986	0.0	29.6	0.0	13.0
1985	2.8	26.3	4.0	11.6
* 1978	15.8	27.8	0.8	21.2

* start of program

The constant percent isolation of salmonella in environmental samples at time of lay continues to be a concern. At the hatchery and egg producer level, increased egg sanitation and management are being encouraged and monitored by the use of Rodac plates.

With the hatching egg chick placement quota increasing, increasing egg sanitation and constant vigilance is essential by both the producer and regional poultry specialist. Greater emphasis on flock health and egg quality is essential to maintain a high degree of chick quality.

(iii) Turkey Health Program

	Flock Placements		Type of Submission		Hatches	Total
Terr.	Heavies	Lights	Rep.	Laying	1 2 3 4 5	
1 Leth.	-	-	-	-	- - - - -	-
2 Airdrie	2	-	-	2	2 3 2 2 2	11
3 }Edmonton	2	-	-	3	3 2 2 2 2	11
4	2	-	-	2	- 1 2 1 1	5
TOTAL	6	-	-	7	5 6 6 5 4	27

Throughout the year, turkey breeders cooperated-operated in various Mycoplasma testing programs. Three heavy-type breeder flocks were placed in Alberta for out-of-the-province egg and poult sales.

(iv) Hatching Egg Supply Flock Approval

The number of flocks under this program has changed very little in the past couple of years, but there has been a significant increase in the number of egg-type birds placed.

Chickens (Approved)

	No. of Flocks		Average Flock Size		No. of Birds	
Year	Egg	Broiler	Egg	Broiler	Egg	Broiler
1989	34	95	2091	2968	71,102	311,587
1988	37	91	1955	4434	72,340	403,487
1987	26	88	1524	3806	39,631	344,967
1986	48	18	1165	3192	55,931	344,738
1985	32	90	1739	3556	55,648	320,073

Turkeys (Approved)

			Average Flock Size		No. of Birds	
Year	Lights	Heavies	Lights	Heavies	Lights	Heavies
1989	-	5	-	4,259	-	21,293
1988	-	4	-	4,275	-	17,100
1987	-	4	-	4,087	-	16,349
1986	-	5	-	5,190	-	25,949
1985	-	3	-	6,150	-	18,450

(v) General

Four I.L.T. disease outbreaks were diagnosed throughout Alberta by the Regional Veterinary Laboratories. Producers were visited by the regional poultry specialist in charge of the particular area.

4. Rabbits

Rabbit extension information packages were mailed to 187 enquiries. Seven individual calls were made to rabbit raisers for various reasons.

Processing figures indicate approximately 16,753 rabbits, mostly fryers, were slaughtered in provincially inspected plants in 1989. Increased interest in raising commercial rabbits was most evident during the past year, because fryers are in short supply in the west.

5. Economic Studies

There is a continual demand for factual and updated information on costs of production.

A fair amount of time was spent with farmers reviewing and assisting with loan applications. Loan applications came from Agricultural Development Corporation, Farm Credit Corporation and many of the banks asking for reviews and comments.

During this period, the Branch developed cost of production models for shell eggs, broiler chicken, turkeys and broiler breeders. These models are continually updated with current data and cost of production information is used to deal with requests in the area of economics.

A number of poultry farms were sold during the year and staff reviewed loan applications and worked with a number of parties before properties were finally sold.

6. Extension

The Branch's role in extension is to interpret and impart to the industry and to the general public, technical, scientific, economic and general information on poultry production. Throughout the year, regional staff members made 494 farm and service calls, 253 poultry health program calls, handled 2,904 office extension enquiries, plus 248 calls to the allied trade. They attended 156 meetings, including both industry and Departmental.

Branch staff continue to work with a wide range of producers varying from large commercial farms to acreage holders with a few birds. Staff spoke at meetings varying from the specialized Agriculture Lender's Workshop to the small flock seminars and country fairs.

In February/March, 1990, the Poultry Industry Conference was again held in Red Deer. The Egg Marketing Board, the Hatching Egg Board and the Turkey Marketing Board all held their annual meetings and the Chicken Marketing Board held an information meeting in connection with the Conference. There was a very impressive area of displays set up in conjunction with the Conference. The Poultry Servicemen's Workshop held at Lake Louise in October, again drew good attendance and good comments. Major poultry shows were held at Calgary, Edmonton and Lloydminster.

ALBERTA POULTRY INDUSTRY STATISTICS

Commercial Egg Production and Marketing

Year	Layer (Average/month)	Total Eggs Dozen (Average/month)	Reg. Stations 15 doz. boxes	Producer Average Wt. Price
1989	1,855,900	3,177,000	2,181,000	106.7
1988	1,931,600	3,177,000	2,328,000	95.9

Poultry Eviscerated in Registered Stations

Chicken (Kilograms)

Year	Under 1 Kg	1-2 Kg	Over 2 Kg	Total
1989	2,043,000	36,985,000	2,244,000	41,273,000
1988	2,311,000	36,927,000	2,877,000	42,115,000

Turkey (Kilograms)

Year	Under 5 Kg	5-8 Kg	Over 8 Kg	Mature	Total
1989	1,516,000	5,310,000	3,414,000	184,000	10,423,000
1988	1,924,000	4,148,000	4,510,000	197,000	10,778,000

Chick and Poultry Placement by Type

	1989	1988
*Egg Production	2,075,000	2,192,000
Broiler Chickens	34,708,000	34,036,000

	1989	1988
Broiler Turkeys	55,000	77,000
Heavy Turkeys	1,483,000	1,546,000

*females only

Poultry Killed at Alberta Inspected Plants

	1989 (Head)	1988 (head)
Broilers	2,961,000	2,833,000
Fowl	272,000	245,000
Other	122,000	122,000

Licensing

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Stations	Egg Product Stations	Buy & Sell Rejects	Hatcheries	Custom Killing Stations
1989	3	13	7	4	14	12	3
1988	2	15	7	0	18	12	2
1987	2	14	11	0	34	12	21
1986	2	17	9	0	32	13	3

Farm Cash Receipts $

	1989	1988
Eggs	46,000,000	46,000,000
Poultry	98,000,000	94,000,000
	144,000,000	140,000,000

REGULATORY
SERVICES
BRANCH

The Regulatory Services Branch is responsible for the administration of certain Acts and their respective Regulations. This regulatory function provides a protection service for livestock producers in the following areas:

- Brand inspection services
- Brand registration
- Licensing and bonding of livestock dealers and agents
- Licensing of stockyards and stockyard operators
- Provide for protection of land and agricultural products from livestock running at large
- Conducting investigations of fraudulent trade practices in livestock trading
- Check scales and equipment used in making railgrade settlements on cattle

Through the cooperation with other government sectors, both provincially and federally, and industry organizations, the branch maintains an effective and efficient protection service to the livestock producers of this province against stolen or strayed livestock.

Brand Recording Summary

	Cattle	Horses	Sheep	Total
New brands issued	1,460	273	1	1,734
Transfers	673	56	0	729
Cancelled brands	603	347	0	950
Brands renewed	9,003	1,309	3	10,315
Brands re-issued	159	36	0	195

There were 52,523 brands in good standing as of December 31, 1989.

Cattle	45,120
Horses	7,392
Sheep	11
	52,523

A total of 11,202 cattle, 1,881 horse and three sheep brand renewal notices were received from Systems Development Division in early September and processed by the Stettler office before month end. Final renewal notices (2,388 for cattle brands and 571 for horse brands) were prepared and mailed to owners who had not renewed. During this period, 1,427 cattle, 357 horse and 2 sheep brands were allowed to expire as of March 31, 1990.

There were 53 livestock auction markets and 53 livestock assembly stations in operation. In addition, during the calendar year:

- eight markets were licensed permitting them to hold five sales or less;
- three markets were licensed permitting them to hold nine sales or less;
- two markets were licensed permitting them to hold two sales or less; and
- three markets were licensed permitting them to hold a one-day sale only.

During the year, a total of 3,501,927 head of livestock were brand inspected. This was an increase of 135,707 head from the previous year. There were a total of 918 horse permits issued covering 2,256 horses.

Summary of 1989 Brand Inspection by Areas

Area	Livestock Inspected	% of Livestock Inspected
Calgary	1,049,970	30.2%
Edmonton	588,434	16.9%
Grande Prairie	78,054	2.3%
Lethbridge	798,384	23.0%
Lloydminster	337,009	9.7%
Red Deer	620,961	17.9%

Summary of Kinds of Livestock Marketed for Five Year Period

	1989	1988	1987	1986	1985
Steers	1,307,240	1,265,659	1,143,455	1,046,552	1,009,742
Heifers	882,894	856,723	805,810	805,942	816,068
Cows	389,183	372,150	366,060	328,124	403,559
Calves	613,944	577,417	543,988	499,327	547,811
Bulls	87,129	81,474	76,250	71,475	86,102
Yearlings	172,536	152,712	177,318	197,170	215,113
Buffalo	320	108	70	215	140
Mares	18,018	24,984	23,494	21,074	16,999
Geldings	16,613	21,952	19,562	17,593	14,401
Fillies	3,191	3,973	4,250	3,350	2,952
Stallions	2,873	4,541	5,600	4,315	3,652
Colts	7,639	4,233	7,426	3,994	3,648
Mules	330	287	282	279	256
Misc.	17	7	-	-	-
TOTALS	3,501,927	3,366,220	3,173,565	2,999,410	3,120,443

Comparison of Branded Livestock Inspected for the Last Five Years

	1989	1988	1987	1986	1985
Branded livestock	76.5%	76.7%	75.4%	75.1%	73.6%
Livestock not branded	23.5%	23.3%	24.6%	24.9%	26.4%

Summary of Inspections

Year	Auction Markets	%	Packing Plants	%	Other Inspection	%
1989	2,065,107	59.0	941,185	26.9	495,635	14.1
1988	1,975,864	59.0	945,931	28.0	444,425	13.0
1987	1,903,416	60.0	916,486	28.9	353,663	11.1
1986	1,785,025	59.5	874,471	29.2	339,914	11.3
1985	1,885,912	60.4	962,585	30.9	271,946	8.7

Permanent Brand Inspectors

	# of Inspectors		Lstk. Inspected		Lstk. Insp. Per Man	
Location	1989	1988	1989	1988	1989	1988
Brooks	2.75	2.91	325,361	326,667	118,313	112,257
Calgary	4.81	5.00	328,894	362,895	68,377	72,579
Clyde	2.60	2.54	228,010	188,612	87,696	74,257
Edmonton	7.50	8.00	307,085	318,815	40,945	39,852
Grande Prairie	2.17	2.16	69,178	58,950	31,879	29,292
Hardisty	1.48	1.41	120,525	106,430	81,436	75,482
High River	2.10	1.56	165,640	8,117	78,876	52,033
Lethbridge	7.24	6.38	540,492	481,257	74,654	75,432
Lloydminster	1.00	1.00	89,641	75,337	89,641	75,337
Medicine Hat	1.66	1.53	65,967	62,800	39,739	41,046
Ponoka	2.38	2.52	180,215	161,585	75,721	64,121
Red Deer	5.31	5.26	329,099	342,930	61,977	65,196
Strathmore	1.00	1.00	105,186	94,463	105,186	94,463
Vermilion	1.50		104,287		69,525	

During 1989, our brand inspection staff questioned 262,321 head of livestock for bills of sale and held the proceeds on another 28,969 head pending proof of ownership. The proceeds on 8,771 head were released to others than the contributor.

Investigations in 1989 resulted in requests for computer retrievals on brand information and as a result, 667 names and 2,002 brands were pulled.

Cattle Exports - 1989

Month	B.C.	Sask.	Man.	Ont.	Que.	USA	Others	Total
Jan.	2,081	4,416	18	3,577	120	9,353	377	19,942
Feb.	2,439	4,012	40	4,535	137	8,216	285	19,664
Mar.	3,539	6,737	18	10,906	504	10,813	310	32,827
Apr.	3,025	10,350	24	7,594	90	19,320	375	40,778
May	4,280	8,601	9	11,067	79	36,006	26	60,068
June	1,695	5,555	55	6,549	71	32,945	122	46,992
July	1,428	5,303	111	5,907	49	19,393	236	32,427
Aug.	1,673	5,889	20	2,906	-	18,053	307	28,848
Sept.	1,369	5,589	15	2,787	528	23,726	118	34,132
Oct.	2,153	15,634	68	10,253	-	17,075	445	45,628
Nov.	2,194	15,131	27	13,024	1,758	7,767	226	40,127
Dec.	1,464	8,364	31	3,032	256	11,067	304	24,518
1989	27,340	95,581	436	82,137	3,592	213,734	3,131	425,951
1988	39,295	56,942	4,526	93,972	2,469	231,871	2,662	431,737

There were 534 missing or stolen cattle reports received. Following is a summary of these reports for the last four years:

Missing or Stolen Cattle Reports

	1989	1988	1987	1986
Total number of report	534	510	561	471
Number of head reported missing or stolen	1,466	1,470	1,128	1,079
Number found	431	444	310	355
Number not found	1,035	1,026	818	724

Under the Stray Animals Act, 1,350 head of livestock were impounded during the year. A total of 1,281 head were returned to the rightful owners after they paid the costs of capture, transportation and maintenance. The balance of 69 head were sold by public auction and the net proceeds after costs were deposited into general revenue.

There were 975 livestock dealers and agents licensed during 1989 compared to 938 the previous year.

Eight branding demonstrations were conducted in various parts of the province with good local participation.

Staff Changes

Several staff changes took place within the branch during the year. Wayne Jensen and Leslie Hiltz resigned from their respective positions. Randy Hopp transferred to High River and Eric Breadner transferred to Strathmore. Ralph Bouck who was a Deputy Brand Inspector in Vermilion joined the branch on a permanent basis.

ALBERTA CROW BENEFIT OFFSET PROGRAM

A. BACKGROUND

The Alberta Crow Benefit Offset Program (effective since July 1, 1987) and the Alberta Feed Grain Market Adjustment Program (September 1, 1985 - June 30, 1987) have offset the distortion in feed-grain prices created by the present federal Crow Benefit payment to the railroads.

The level of distortion is dependent on factors such as export demand, transportation capacity, and grain supply.

To offset the distortion, program payments since September 1, 1985 were as follows:

September 1, 1985 to June 30, 1987	$21 per tonne
July 1, 1987 to August 31, 1989	$13 per tonne
September 1, 1989 to March 31, 1990	$10 per tonne

Feed users (livestock producers) were registered on either the certificate option, the farm fed option, or both - depending on the source of the feed grain which they used. Certificate option registrants were given certificates for use when purchasing eligible feed grain. Farm Fed registrants claimed benefit on home-grown grain which was fed to livestock.

Feed sellers who received certificates as partial payment for feed grain were either grain producers or merchants. Feed-grain producers presented certificates to Alberta Agriculture for reimbursement. Feed-grain

merchants were not permitted, except in certain circumstances, to present certificates for reimbursement. Instead, they were required to match the aggregate tonnage of eligible feed grain purchased and aggregate tonnage sold, within an approved float.

B. REGISTRATIONS

1. Feed Grain Users

A total of 26,947 feed users were registered on the program as at March 31, 1990. This was a net increase of 275 from the previous year. The number of feed users registered under the certificate, farm fed, and both options were 6,091, 11,094, and 9,822, respectively. The following table compares the number of registrants as at March 31, 1990 with previous years:

OPTION	1987-88	1988-89	1989-90
Certificates	6,733	6,457	6,031
Farm Fed	11,084	11,052	11,094
Both	8,338	9,163	9,822
TOTAL	26,155	26,672	26,947

2. Feed-Grain Merchants

A total of 305 feed-grain merchants were registered on the program by March 31, 1990. Two hundred and twenty-eight actively participated in the program in fiscal 1989-90 and 77 were inactive. A total of 72 merchants were exempt. Exempt merchants can accept A or B certificates when selling

grain, but are not required to issue B certificates to balance the aggregate tonnage of grain bought and sold as do non-exempt merchants on the program.

A complete breakdown of merchants by type and status was as follows:

Type of Merchant	Active	Inactive	Total
Grain dealers	87	49	136
Feedmills	74	12	86
Elevator Companies	10	1	11
Exempt	57	15	72
TOTAL	228	77	305

There were 15 new feed-grain merchants registered on the program in 1989-90 year: 4 grain dealers, 7 feed mills, 1 elevator company, and 3 exempt.

Most merchants registered on the program bought and sold 5,000 tonnes of eligible feed grains annually. Only four bought and sold in excess of 80,000 tonnes annually. A complete breakdown of merchants by tonnage was as follows:

Range of Tonnes	Number of Merchants Sold	Purchased
0 - 0	102	168
1 - 5,000	141	81
5,001 - 10,000	22	17
10,001 - 20,000	12	15
20,001 - 40,000	17	11
40,001 - 60,000	4	5
60,000 - 80,000	3	4
> 80,000	4	4
TOTAL	305	305

C. GRANT PAYMENTS

Grant payments from April 1, 1989, totalled $48,889,423.03. The distribution of grant payments by month for both certificate and farm-fed options is shown below:

Distribution of Grant Payments

Payments to Registrants:

MONTH	CERTIFICATE DOLLAR	FARM FED DOLLAR	TOTAL DOLLAR
April	$ 1,420,503.35	$ 1,350,018.00	$ 1,555,521.35
May	1,385,226.41	1,765,081.00	3,150,307.41
June	2,046,043.43	1,444,869.00	3,490,912.43
July	1,786,390.86	1,439,062.45	3,225,453.31
August	1,808,206.40	2,587,402.00	4,395,608.40
September	1,691,385.34	2,162,934.00	3,854,319.34
October	2,028,674.14	1,521,936.00	3,550,610.14
November	1,930,781.31	1,481,222.88	3,412,004.19
December	1,687,093.08	917,459.30	2,604,552.38
January	3,203,281.70	1,347,133.79	4,550,415.49
February	1,873,865.70	2,051,782.00	3,925,647.70
March *	2,712,388.79	4,098,409.78	6,810,798.57
TOTAL	**$ 23,573,840.51**	**$ 20,952,310.20**	**$ 44,526,150.71**

Payments to Merchants:

Reimbursement	5,851,409.17
N.S.F. Payments (relating to Program Condition 9.8.3)	77,241.12
Closing Merchant Accounts & Repayments	101,250.96
Current Expenditure Refunds	<1,417,623.85>
Transfer Changes (Certificate & Farm Fed)	17,210.88
Accrued Liabilities to March 31, 1989 (Paid in Current Year)	<2,059,542.28>
Accrued Liabilities to March 31, 1990	1,793,326.32
Total Expenditures 1989/90 **	**$ 48,889,423.03**

* includes payments made after March 31, 1990 but pertains to the 1989/90 fiscal year
** Reconciles to the DFS/CFS Report

A complete breakdown of expenditures by region, district office, and municipal district are included in the appendices.

The size of grants distributed to registrants is skewed heavily to smaller payments. A large number of registrants (11,747) received no benefit during the 1989-90 fiscal year. Registrants who received no benefit the previous year was 11,446. However, it should be noted that many registrants submit claims less often than once per year because there are no deadlines for claiming.

Seventy-four percent (20,673) of registrants received payment of less than $1,000 in fiscal 1989-90. This includes those who received zero payments. The table on the following page shows the distribution of payments by amount for fiscal 1989-90.

Distribution of payments among registrants is shown below:

RANGE OF PAYMENTS IN DOLLARS		REGISTRANTS
$ 0.00	$ 0.00	11,747
0.01	100.00	1,029
100.01	200.00	1,142
200.01	300.00	1,144
300.01	400.00	932
400.01	500.00	921
500.01	600.00	824
600.01	700.00	676
700.01	800.00	670
800.01	900.00	610
900.01	1,000.00	504
1,000.01	2,000.00	3,359
2,000.01	3,000.00	1,469
3,000.01	4,000.00	801
4,000.01	5,000.00	478
5,000.01	6,000.00	348
6,000.01	7,000.00	231
7,000.01	8,000.00	168
8,000.01	9,000.00	112
9,000.01	10,000.00	93
10,000.01	20,000.00	373
20,000.01	30,000.00	133
30,000.01	40,000.00	52
50,000.01	and above	130
TOTAL NUMBER OF REGISTRANTS		27,946

D. FIELD INSPECTIONS

There were 2,597 field inspections completed by the Alberta Crow Benefit Offset Program inspection staff during the 1989-90 fiscal year. This figure includes approximately 350 inspections completed for the National Tripartite Stabilization Program. It does not include the 660 field inspections which program audit staff completed for the Canada Alberta Livestock Drought Assistance Program.

The error rate for the Alberta Crow Benefit Offset Program was .34%. This was based on a 2% random sample of program registrations.

APPENDIX I

ALBERTA CROW BENEFIT OFFSET PROGRAM

1989-1990 Grant Expenditures by Agricultural Region

Code	Region	Registration number	Certificate Dollars	Farm Fed Dollars	Total Dollars
1	Lethbridge	4,030	$ 12,072,604.10	$ 2,459,101.79	$ 14,531,705.89
2	Airdrie	4,154	5,459,483.29	3,185,297.30	8,644,780.59
3	Red Deer	7,047	4,432,570.59	5,602,352.88	10,034,923.47
4	Vermilion	5,821	2,520,224.83	4,836,006.45	7,356,231.28
5	Barrhead	6,175	2,276,234.36	4,089,222.78	6,365,457.14
6	Fairview	2,180	349,513.69	946,836.00	1,296,349.69

Not reconciled to DFS/CFS

APPENDIX II

ALBERTA CROW BENEFIT OFFSET PROGRAM

1989-1990 Grant Expenditures by District Office

LETHBRIDGE REGION (Southern)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2B01AC	Brooks	573	$ 2,677,209.54	$ 342,710.79	$ 3,019,920.33
E2B01AD	Cardston	362	287,270.15	281,517.00	568,787.15
E2B01AE	Claresholm	459	846,750.44	258,205.00	1,104,955.44
E2B01AF	Foremost	134	58,214.14	88,816.00	147,030.14
E2B01AG	Bow Island	84	182,454.64	15,613.00	198,067.64
E2B01AH	Lethbridge	713	5,506,721.60	454,957.00	5,961,678.60
E2B01AI	Medicine Hat	502	315,877.46	172,030.00	487,907.46
E2B01AJ	Pincher Creek	268	336,099.21	172,310.00	508,409.21
E2B01AK	Taber	222	871,760.98	114,437.00	986,197.98
E2B01AL	Vauxhall	194	339,419.86	82,468.00	421,887.86
E2B01AM	Vulcan	310	141,304.23	222,251.00	363,555.23
E2B01AN	Warner	209	509,521.85	253,787.00	763,308.85
TOTAL:		4,030	$ 12,072,604.10	$ 2,459,101.79	$ 14,531,705.89 *

AIRDRIE REGION (South Central)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2C01AC	Calgary	416	$ 352,270.37	$ 272,200.51	$ 624,470.88
E2C01AD	Drumheller	271	67,246.62	311,074.00	378,320.62
E2C01AE	Hanna	296	97,791.49	225,455.00	323,246.49
E2C01AF	High River	554	666,143.50	381,363.00	1,047,506.50
E2C01AG	Olds	1,100	847,898.69	736,840.00	1,584,738.69
E2C01AH	Oyen	205	105,249.77	80,737.79	185,987.56
E2C01AI	Strathmore	396	1,730,500.09	351,437.00	2,081,937.09
E2C01AJ	Three Hills	526	1,019,896.84	454,958.00	1,474,854.84
E2C01AK	Airdrie	390	572,485.92	371,232.00	943,717.92
TOTAL:		4,154	$ 5,459,483.29	$ 3,185,297.30	$ 8,644,780.59 *

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RED DEER REGION (Central)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2D01AC	Camrose	1,046	$ 451,429.46	$ 757,922.34	$ 1,209,351.8
E2D01AD	Coronation	497	142,206.05	487,498.00	629,704.0
E2D01AE	Lacombe	566	332,728.77	428,833.00	761,561.7
E2D01AF	Ponoka	798	1,031,372.04	815,214.00	1,846,568.0
E2D01AG	Red Deer	501	704,365.44	494,317.66	1,198,683.1
E2D01AH	Rimbey	530	685,315.24	514,540.00	1,199,855.2
E2D01AI	Rocky Mtn. House	590	168,355.61	248,296.00	416,651.6
E2D01AJ	Sedgewick	651	216,784.13	300,961.00	517,745.1
E2D01AK	Stettler	536	270,334.29	527,111.00	797,445.2
E2D01AL	Wetaskiwin	674	220,807.19	549,409.00	770,216.1
E2D01AM	Innisfail	658	208,872.37	478,250.88	687,123.2
TOTAL:		7,047	$ 4,432,570.59	$ 5,602,352.88	$ 10,034,923.4

VERMILION REGION (North East)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2E01AC	Bonnyville	333	$ 29,078.53	$ 229,905.00	$ 258,983.5
E2E01AD	Lac La Biche	244	11,563.18	102,403.00	113,966.1
E2E01AE	Lamont	629	42,130.31	407,048.00	449,178.3
E2E01AF	Lloydminster	359	496,093.08	485,862.00	981,955.0
E2E01AG	Provost	442	891,895.64	467,738.00	1,359,633.6
E2E01AH	Ryley	688	175,909.80	542,038.00	717,947.8
E2E01AI	St. Paul	779	206,780.13	745,887.00	952,667.1
E2E01AJ	Smoky Lake	369	35,108.33	195,126.00	230,234.3
E2E01AK	Two Hills	460	161,209.10	330,286.00	491,495.1
E2E01AL	Vegreville	635	66,507.31	436,757.00	503,264.3
E2E01AM	Vermilion	506	95,750.11	484,456.00	580,186.5
E2E01AN	Wainwright	377	308,199.31	408,520.00	716,719.3
TOTAL:		5,821	$ 2,520,224.83	$ 4,836,006.45	$ 7,356,231.2

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BARRHEAD REGION (North West)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2F01AC	Athabasca	531	$ 81,012.07	$ 252,316.00	$ 333,328.07
E2F01AD	Barrhead	778	433,026.00	964,051.78	1,397,077.78
E2F01AE	Drayton Valley	332	27,357.76	105,163.00	132,520.76
E2F01AF	Edson	168	117,648.25	98,532.00	216,180.25
E2F01AG	Evansburg	193	12,445.07	59,830.00	72,275.07
E2F01AH	Ft. Saskatchewan	392	272,924.90	103,248.00	376,172.90
E2F01AI	Leduc	902	256,861.27	598,506.00	855,367.27
E2F01AJ	Morinville	453	378,347.32	504,884.00	883,231.32
E2F01AK	Sangudo	589	108,805.18	300,592.00	409,397.18
E2F01AL	Stony Plain	603	177,808.82	298,243.00	476,051.82
E2F01AM	Thorhild	403	60,288.42	224,764.00	285,052.42
E2F01AN	Westlock	831	349,709.30	579,093.00	928,802.30
TOTAL:		6,175	$ 2,276,234.36	$ 4,089,222.78	$ 6,365,457.14 *

FAIRVIEW REGION (Peace River)

Code	Region	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
E2G01AB	Fairview	339	$ 45,876.76	$ 130,184.00	$ 176,060.76
E2G01AC	Fahler	52	15,412.33	53,486.00	68,898.33
E2G01AD	Fort Vermilion	211	4,825.55	63,166.00	67,991.55
E2G01AE	Grande Prairie	576	175,267.45	271,977.00	447,244.45
E2G01AF	High Prairie	192	9,540.79	81,757.00	91,297.79
E2G01AG	Manning	122	11,710.60	33,017.00	44,727.60
E2G01AH	Peace River	196	23,867.85	78,658.00	102,525.85
E2G01AJ	Spirit River	240	41,630.41	94,545.00	136,175.41
E2G01AK	Valleyview	176	11,685.67	109,303.00	120,988.67
E2G01AL	Eaglesham	76	9,696.28	30,743.00	40,439.28
TOTAL:		2,180	$ 349,513.69	$ 946,836.00	$ 1,296,349.69 *

* Not reconciled to DFS/CFS

APPENDIX III
ALBERTA CROW BENEFIT OFFSET PROGRAM
1989-90 Grant Expenditures by Municipal District

MD Code	MD Name	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
C001	Grande Prairie	506	$ 126,796.78	$ 248,108.00	$ 374,904.7
C002	Vulcan	326	151,825.52	251,752.00	403,577.5
C003	Ponoka	987	864,129.38	693,755.66	1,557,885.0
C004	Newell	520	2,564,118.52	330,005.79	2,894,124.3
C005	Warner	217	524,749.97	258,298.00	783,047.9
C006	Stettler	681	210,270.69	554,173.00	764,443.6
C007	Thorhild	393	55,670.34	211,933.00	267,603.3
C008	Forty Mile	242	372,647.80	139,383.00	512,030.8
C009	Beaver	712	153,408.21	537,157.00	690,565.2
C010	Wetaskiwin	789	218,701.95	495,679.88	714,381.8
C011	Barrhead	728	425,669.70	929,040.78	1,354,710.4
C012	Athabasca	527	82,318.36	247,725.00	330,043.3
C013	Smoky Lake	402	48,874.56	231,732.00	280,606.5
C014	Lacombe	852	1,027,514.08	869,986.00	1,897,500.0
C016	Wheatland	428	1,747,152.52	401,329.00	2,148,481.5
C017	Mountainview	1,069	746,079.09	698,827.00	1,444,906.0
C018	Paintearth	296	49,899.96	335,768.00	385,667.9
C019	St. Paul	638	128,286.40	608,149.00	736,435.4
C020	Strathcona	393	288,886.02	99,426.00	388,312.0
C021	Two Hills	513	171,603.12	374,695.00	546,298.1
C022	Camrose	960	439,446.03	686,436.34	1,125,882.3
C023	Red Deer	1,054	1,114,301.55	936,046.00	2,050,347.5
C024	Vermilion River	824	588,557.01	942,764.45	1,531,321.4
C025	Leduc	1,041	296,949.91	626,979.00	923,928.9
C026	Lethbridge	681	4,632,791.90	434,937.00	5,067,728.9
C027	Minburn	544	50,143.89	379,350.00	429,493.8
C028	Lac Ste. Anne	641	104,705.24	320,505.00	425,210.2
C029	Flagstaff	594	273,354.35	607,420.00	880,774.3
C030	Lamont	704	50,249.28	431,254.00	481,503.2
C031	Parkland	690	174,775.93	341,983.00	516,758.9
ID01		1	0.00	0.00	0.0
ID05	Kananaskis Park	4	0.00	0.00	0.0
ID06	Canmore S	5	217.44	0.00	217.4
ID07	Drumheller	5	609.26	4,717.00	5,326.2
ID08	Canmore N	20	6,322.70	4,676.00	10,998.7
ID09	Banff Park	1	0.00	338.00	338.0
ID12		1	0.00	0.00	0.0
ID14	Evansburg	326	128,221.43	151,890.00	280,111.4

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MD Code	MD Name	Registration Number	Certificate Dollars	Farm Fed Dollars	Total Dollars
ID15	Fort Assiniboine	84	14,453.74	31,995.00	46,448.74
ID16	Valleyview	255	57,422.79	136,701.00	194,123.79
ID17	High Prairie	302	$ 31,693.20	$ 138,636.00	$ 170,329.20
ID18	Bonnyville ID	364	28,851.29	170,127.00	198,978.29
ID19	Wanham	100	18,215.76	38,023.00	56,238.76
ID20	Spirit River ID	180	30,960.53	71,079.00	102,039.53
ID21	Worsley	207	26,445.49	77,679.00	104,124.49
ID22	Manning	176	15,184.37	54,415.00	69,599.37
ID23	Fort Vermilion	210	4,825.55	63,166.00	67,991.55
MD01	Cypress	480	292,039.99	120,111.00	412,150.99
MD06	Cardston	367	298,144.82	297,312.00	595,456.82
MD09	Pincher Creek	268	336,356.51	172,310.00	508,666.51
MD13		1	0.00	0.00	0.00
MD130	Smoky River	54	16,216.03	54,084.00	70,300.03
MD133	Spirit River MD	45	5,754.70	15,816.00	21,570.70
MD135	Peace	100	9,119.38	29,805.00	38,924.38
MD136	Fairview	120	14,735.99	46,369.00	61,104.99
MD14	Taber	418	1,098,928.68	196,905.00	1,295,833.68
MD26	Willow Creek	474	1,684,798.78	261,299.00	1,946,097.78
MD31	Foothills	539	662,733.86	354,930.00	1,017,663.86
MD34	Acadia Valley	38	23,224.28	19,305.00	42,529.28
MD40		1	0.00	0.00	0.00
MD44	Rocky View	798	923,573.21	651,050.51	1,574,623.72
MD47	Starland	204	45,490.49	267,704.00	313,194.49
MD48	Kneehill	559	1,021,865.54	470,102.00	1,491,967.54
MD52	Provost	400	859,737.98	448,628.00	1,308,365.98
MD61	Wainwright	382	311,990.73	438,368.00	750,358.73
MD87	Bonnyville MD	312	78,355.44	269,012.00	347,367.44
MD90	Sturgeon	460	380,751.69	507,650.00	888,401.69
MD92	Westlock	776	351,298.42	570,385.00	921,683.42
MD99	Clearwater	679	221,468.02	299,533.00	521,001.02
SA02	Hanna	318	202,424.60	225,147.00	427,571.60
SA03	Oyen	176	103,965.70	66,710.79	170,676.49
SA04	Consort	245	120,354.41	168,241.00	288,595.41

Not reconciled to DFS/CFS